

TYLER JUNIOR COLLEGE

TYLER, TEXAS



ANNUAL CATALOGUE 1968-1969

ANNOUNCEMENT OF COURSES 1969-1970

TYLER JUNIOR COLLEGE

EAST FIFTH STREET

+ +

ANNUAL CATALOGUE

1968 - 1969

WITH

ANNOUNCEMENTS FOR

1969 - 1970

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TYLER, TEXAS

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GENERAL COLLEGE

CALENDAR

1969 - 1970

ADVANCE REGISTRATION

The administrative offices are open throughout the summer for advance registration. Thorough and leisurely counseling is available on degree plans, technical courses and vocations. Students may arrange appointments from 8 a.m. until 3 p.m. Mondays through Fridays.

FALL SEMESTER

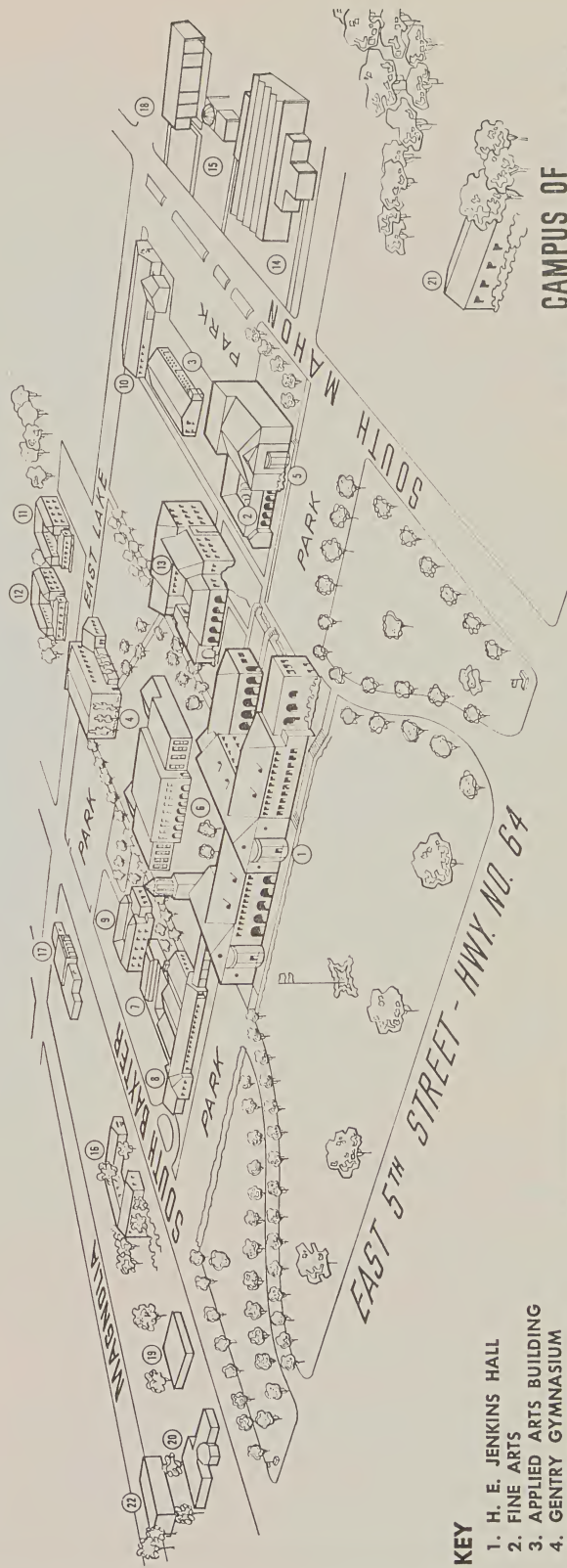
	1969-70
Final Registration	Sept. 2, 3, 4
Classes Begin	Sept. 8
Freshman Convocation	Sept. 9
Thanksgiving Holidays	Nov. 27-28
First Christmas Holiday	Dec. 22
Classes Resumed	Jan. 5, 1970
Final Examinations	Jan. 12, 13, 14, 15

SPRING SEMESTER

	1969-70
Registration for Spring Semester	Jan. 21, 22, 23
Classes Begin	Jan. 26
Easter Holidays	March 26-31
Honors Day	May 12
Final Examinations	May 13, 14, 15, 18
Commencement	May 22

SUMMER SESSION

	1970
Registration for First Term	June 1
Classes Begin	June 2
First Term Ends	July 10
Registration for Second Term	July 13
Classes Begin	July 14
Second Term Ends	Aug. 21



CAMPUS OF TYLER JUNIOR COLLEGE

KEY

- | | |
|---------------------------|----------------------------------|
| 1. H. E. JENKINS HALL | 14. GYMNASIUM |
| 2. FINE ARTS | 15. HUDNALL PLANETARIUM |
| 3. APPLIED ARTS BUILDING | 16. BAPTIST STUDENT UNION |
| 4. GENTRY GYMNASIUM | 17. CLARIDGE HALL |
| 5. WISE AUDITORIUM | 18. TECHNOLOGY BUILDING |
| 6. LIBRARY | 19. CHURCH OF CHRIST BIBLE CHAIR |
| 7. STUDENT CENTER | 20. METHODIST BIBLE CHAIR |
| 8. DINING HALL | 21. PRESBYTERIAN BIBLE CHAIR |
| 9. LILLYE MAE VAUGHN HALL | 22. BATEMAN HALL |
| 10. EAST HALL | |
| 11. CENTER HALL | |
| 12. WEST HALL | |
| 13. ACADEMIC BUILDING | |

Board of Trustees

Dr. Jim M. Vaughn.....	President
Ira Hildebrand	First Vice-President
George Pirtle	Second Vice-President
Ava Lea Gentry	Secretary

Earl C. Andrews	Cecil Bagwell	A. D. Clark, Jr.
Homer Eikner		Harry Loftis
Hubert Tunnell	B. D. White	Watson W. Wise

* * * *

The Administrative Council

Harry E. Jenkins, Ph.D.....	President
Edward M. Potter, M.A., L.L.D.....	Vice-President, General and Academic
R. H. Barrett, M.B.A.....	Vice-President, General and Fiscal
Ava Lea Gentry, A.A.	Administrative Assistant
I. L. Friedman, B.S.....	Dean of Instruction
Edwin Fowler, M.Ed.....	Dean of Men
Eva Saunders, M.A.....	Dean of Women
Edwin Brogdon, M.B.A.....	Dean of the Evening Division
Kenneth Lewis, M.S.....	Registrar

* * * *

FACULTY

Harry E. Jenkins	President
B.S., Kansas State College; M.A., The University of Missouri; Ph.D., The University of Texas	
Edward M. Potter	Vice-President, Academic and General
B.A., M.A., The University of Texas; LL.D., East Texas Baptist College	
Richard Barrett	Vice-President, Fiscal and General
B.B.A., East Texas State University; M.B.A., Texas A&M University	

FACULTY (Continued)

- Johnny Abbey Business
B.B.A., M.B.A., The University of Texas
- Andrés R. Acosta..... Spanish, French
Ph.D., University of Havana, Cuba
- Thomas W. AkinsEnglish
B.A., Texas A&M University; M.A., Southern Methodist University
- Margaret Anders.....Library Assistant
- Billy Wayne Andrews Physical Education—Football Coach
B.A., Trinity University
- Eileen ArndtGovernment
B.A., M.A., North Texas State University
- Albert Baade..... Electronic Data Processing
B.A., Baylor University
- Ray Bagwell.....Government
B.A., Baylor University; M.Ed., East Texas State University
- Boyd V. Baker..... Bible, Director of the Methodist Bible Chair
B.B.A., B.D., Southern Methodist University
- Robert BallardGovernment, History
B.A., Culver-Stockton College; M.S., East Texas State University
- James F. Barnes Government, Economics
B.A., Mississippi College; M.A., The University of Mississippi
- Bill Barnett Bible
B.A., East Texas Baptist College
- Raymond I. Barrett Bible, Director of the
Presbyterian Student Center
B.S., Taylor University; M.T., Dallas Theological Seminary
- Charles D. Bennett..... Business Education
B.S., Southeastern State College, Okla.; M.S., Oklahoma State University
- Silvia Berggren.....Chemistry — Laboratory Instructor
- Jack W. Betts.....Engineering Drawing, Drafting
B.S., M.Ed., East Texas State University
- Sue Betts.....Library Assistant
B.S., M.Ed., East Texas State University
- Lawrence Birdsong, Jr.....Speech, Drama
B.A., Baylor University; M.A., East Texas State University

FACULTY (Continued)

- Gene Blakely.....Business Assistant,
B.B.A., North Texas State University Electronic Data Processing
- Ray BlankenshipSociology, Psychology
B.S., East Texas Baptist College; M.A., Stephen F. Austin State College
- A. L. Blanton English
B.S., M.S., Stephen F. Austin State College
- Mack R. Broiles Sociology
B.S., M.Ed., East Texas State University
- Charles A. Brown History
B.A., M.A., Oklahoma State University
- Jean BrowneChairman, Department of Speech and Drama
B.A., Mt. Holyoke College; B.A., Carnegie Institute of Technology;
M.F.A., The University of Texas; Ph.D., State University of Iowa
- Edwin S. Brogdon Dean of the Evening Division,
B.B.A., M.B.A., East Texas State University Distributive Education
- B. T. Bryant..... Mathematics
B.S., M.S., East Texas State University
- Elizabeth BryarlyChairman, Department of English
B.A., Baylor University; M.A., The University of Texas
- Julius Buchanan..... Petroleum Technology
B.S., The University of Texas
- Paula Buck English
B.A., Texas A&I University; M.A., Stephen F. Austin State College
- Don S. Burket Government
B.A., M.A., Austin College
- John Maxwell Burket..... Geology
B.A., M.S., Baylor University
- Henry T. Burns..... Agriculture - Economics
B.S., M.S., Texas A&M University
- Mary Burton English
B.A., M.A., Sam Houston State College
- Fred L. Campbell..... Bible
B.S., University of Missouri
- Merrill Cantrell..... Electronic Data Processing
A.A., Tyler Junior College
- Charles J. Cavanaugh..... Art
B.F.A., Louisiana College; M.A., North Texas State University

FACULTY (Continued)

Edith Chilcote.....	Library Assistant
B.A., Southern Methodist University	
Louise Clinkscates.....	Chairman, Department of Business Education and Secretarial Training
B.B.A., Baylor University; M.B.A., East Texas State University	
Milford T. Collins.....	History
B.A., East Texas Baptist College; M.A., Stephen F. Austin State College	
Rebecca Collins.....	Psychology, Sociology
B.S., M.Ed., Stephen F. Austin State College	
Josephine Coursey.....	Biology
B.S., M.S., North Texas State University	
Marjorie Coulter.....	Physical Education
B.S., Baker University	
Edmund R. Crisp.....	Engineering Drawing
B.S., Texas A&M University	
Felder Cullum.....	Psychology
B.S., University of Maryland; M.Ed., Ed.D., North Texas State University	
Charles Cunningham.....	Electronics
F.C.C. Licensed Radio-Television Engineer	
Marvin P. Davis.....	Mathematics
B.S., Lamar State College of Technology; M.A., Louisiana State University	
Milton Davis.....	Bible
A.B., Baylor University; M.Th., Southwestern Baptist Theological Seminary	
David Demic.....	Mathematics
B.A., Texas Technological College; M.A., The University of Texas	
Joseph L. Dennis.....	History
B.A., Southern State College; M.A., Texas A&M University	
Con Devers.....	History
B.A., M.Ed., Stephen F. Austin State College	
James Duncan.....	Bible
Clarence Durham.....	Engineering
B.S., Georgia School of Technology	
Marie Dusek.....	Home Economics
B.S., Sam Houston State College	
Linda Ellis.....	English
B.A., M.A., East Texas State University	
Lena Exum.....	English
B.A., Mississippi State College for Women; M.A., University of New Mexico	

FACULTY (Continued)

Sara Bess Faulk.....	Library Assistant
Willard Charlie Fenn	Bible
B.D., Southwestern Baptist Theological Seminary	
Kamill Fogarasi	German
B.A., M.A., Wayne State University, Michigan	
Edwin Fowler.....	Dean of Men
B.A., Baylor University; M.Ed., East Texas State University	
Irving L. Friedman	Dean of Instruction
B.S., East Texas State University	
Ava Lea Gentry.....	Administrative Assistant to the President
A.A., Tyler Junior College	
Alfred Gilliam	Choreographer
Robert Glover	History, Government
B.A., M.A., Stephen F. Austin State College	
Averille Greenhaw	Home Economics
B.S., Oklahoma State University	
Cecil Greer	History, Government
B.A., University of Miami; M.A., University of Georgia	
Forest Griffin.....	Chairman, Department of Technology, Drafting
B.S., M.S., East Texas State University	
Elinor R. Hanes	Spanish, French
A.B., Augustana College, Ill.; A.M., Oberlin College	
David Hanson	Music
B.A., M.F.A., The University of Minnesota	
Thurman Dale Hamman	Business
B.A., M.S., East Texas State University	
Raymond M. Hawkins.....	Government
B.A., The University of Texas; M.A., Stephen F. Austin State College	
John Head	Biology
B.A., East Texas State University; M.A., Sam Houston State College	
Royce Ann Heard.....	Mathematics
B.A., Baylor University; M.A., Sam Houston State College	
Claire Heaton	Library Assistant
B.A., Stephen F. Austin State College	
Richard Heitzman.....	Speed Reading
B.CH.E., University of Florida	
Joseph C. Henderson.....	Biology
B.A., Rice University; M.A., The University of California at Berkeley	

FACULTY (Continued)

Ernest E. Hendrix, Jr.	Surveying
B.S., Texas A&M University	
Louise Hendry	Art
B.A., North Texas State University	
James H. Hill	Chemistry
B.S., Lamar State College of Technology; M.S., University of Arizona	
Wayne Hill	Physical Education, Assistant Football Coach
B.S., M.Ed., Sam Houston State College	
Darvin R. Hoffman	Accounting
B.B.A., Lamar State College of Technology; M.B.A., North Texas State University	
Loretta Holbrook	English
B.S., M.A., Stephen F. Austin State College	
Thomas S. Holcomb	Bible
B.S., Texas A&M University; B.D., Southern Methodist University	
Kenneth D. Holder	English
B.S.E., M.S.E., Henderson State Teachers College	
Iva Jenkins	Library Assistant
Wiley W. Jenkins	History, Government and Chairman Department of Social Science
B.S., The University of Mississippi; Ph.D., The University of Texas	
J. W. Johnson	Music, Band
B.M., M.M., North Texas State University	
William R. Jones	Bible
B.S., University of Tennessee	
Elton Wayne Keith	History
B.A., M.A., Baylor University; M.A., Peabody College	
Larry R. Kelley	Bible
B.A., Stephen F. Austin State College; B.D., Southern Methodist University	
E. C. Kennedy	Mathematics
B.S., Newark College of Engineering; M.S., Stevens Institute of Technology	
Hugh A. Kenner	Business
B.B.A., M.B.A., East Texas State University	
Joseph Kirshbaum	Chairman, Department of Music
Mus.B., Mus.M., Yale University	
Versia Lacy	Science
B.S., Tillotson College; M.S., Atlanta University	
Willie Lankford	English
B.A., Texas Woman's University; M.A., Stephen F. Austin State College	

FACULTY (Continued)

James N. Lewis.....	Government, Economics
B.S., M.A., North Texas State University	
Kenneth D. Lewis.....	Registrar, Agriculture
B.S., Texas A&M University; M.S., East Texas State University	
David J. Ligon.....	Government, History
B.S., Portland State College; M.S., Eastern New Mexico University	
Eugene B. Long.....	Counselor
A.B., Wiley College; A.M., University of Michigan	
Dottie Mack	Nursing
B.S., The University of Texas - School of Nursing	
Barbara C. Mallard	Nursing
B.S., Illinois Wesleyan University	
Jefferson H. Martin.....	Mathematics
B.S.E., Southern State College; M.A., University of Arkansas	
Hubert May.....	Mathematics
B.A., M.A., East Texas State University	
Merry McBryde	Nursing
R.N., B.S., University of Texas	
Barbara McDaniel	English
B.A., M.A., North Texas State University	
Loretta McGehee	English
B.A., Southern Methodist University; M.A., East Texas State University	
Evelyn McManus	Librarian
B.A., Southwestern University; M.S., East Texas State University	
H. F. Mills	History, English
B.A., M.A., Rice University	
June Murphy	Nursing
R.N., B.S., Texas Christian University	
James Murray, Jr.....	English
B.A., Baylor University; M.A., The University of Texas	
Margie Noel.....	History
B.A., Austin College; M.A., Tulane University	
Daniel Owens	Drafting
B.S., M.Ed., North Texas State University	
Willie Lee Palmore.....	Biology Laboratory
B.S., North Texas State University	
Ronald Patschke	Mathematics
B.S., M.A., Southwest Texas State College	
Adrian J. Peddy.....	Geology
B.S., Texas Technological College; M.S., East Texas State University	

FACULTY (Continued)

Mary W. Peddy.....	Business
B.S., Mississippi State College for Women; M.Ed., Mississippi State University	
Beverly Perkins.....	English
B.A., Texas Technological College; M.S., East Texas State University	
Robert K. Peters.....	History
B.A., Texas Christian University; M.A., Stephen F. Austin State College	
Beverly Phillips.....	Journalism Laboratory
B.A., East Texas State University	
Joe Allen Powell.....	Accounting
B.B.A., M.B.A., Sam Houston State College	
Lloyd Powers.....	Speech
B.A., M.A., The University of Oklahoma	
Blanche Prejean.....	English, Journalism
B.A., Texas Wesleyan College; M.A., Stephen F. Austin State College Ph.D., The University of Texas	
J. W. F. Puett.....	Electronics
B.Ap.Sc., The University of Houston	
Esten Ray.....	Police Training
B.S., Stephen F. Austin State College	
Suzanne Ray.....	Art
B.A., Texas Womens University; M.A., Stephen F. Austin State College	
Herbert L. Richardson.....	Counselor
B.S., M.Ed., University of Houston	
Richard Rivers.....	Music
B.S., Julliard School of Music; M.A., George Peabody College	
Thomas G. Robinson.....	Social Science
B.A., M.A., The University of Oklahoma	
Leo Rudd.....	Counselor
B.A., William Jewell College; M.S., East Texas State University	
Catherine Russell.....	Business
B.B.A., M.B.Ed., North Texas State University	
John T. Saleh, Jr.....	Business Administration
B.B.A., East Texas State College; M.B.A., North Texas State University	
Martin Z. Sammons, Jr.....	Business
L.L.B., Baylor University	
I. C. Sanders.....	Laboratory Instructor
B.A., Rice University; M.A., The University of Texas	
Eva Saunders.....	Dean of Women
A.B., Baylor University; M.A., The University of Texas	
Marvin H. Schack.....	Mathematics
B.S., Colorado State University; M.S., University of Idaho	

FACULTY (Continued)

William J. Schange	Business
B.S., M.S., East Texas State University	
Grover Don Sikes.... Bible, Director Church of Christ Student Center	
B.A., M.A., Eastern New Mexico University	
Sylvia Lynn Sleightsinger.....	French
B.A., Baylor University; M.A., Louisiana State University	
Walter S. Smith.....	Radio-Television
FCC Licensed Radio-Television Engineer	
Sammie M. Smyrl.....	Mathematics
B.A., East Texas State College; M.A., The University of Texas	
Mahlon Soileau.....	French, and Chairman Department
B.A., M.A., University of Southwestern Louisiana of Foreign Languages	
French Language Certificate, University of Paris	
Charles Sowders	Drafting and Advertising Arts
B.S., Sul Ross State College	
Neville Spiers	Physical Education and Football Coach
B.S., North Texas State University	
Etta Spivey	Business
B.S., Mary Washington College	
Milton D. Stark.....	Physics, Mathematics
B.A., Rice University; M.S., The University of Mississippi	
George Stiles.....	Biological Science, and Chairman
of Department of Science	
B.S., Sam Houston State College; M.A., Colorado State College of Education	
Clarence Strickland	Speech
B.S., M.S., East Texas State University	
Lorene Strickland	English
B.A., M.A., Stephen F. Austin State College	
Adeline Stuckey	Interior Decoration
B.F.A., Texas Woman's University	
George B. Tefeller	Mathematics
B.S., M.S., East Texas State University	
June Thompson	English
B.S., M.A., Stephen F. Austin State College	
Patsy Tiller	Nursing
R.N., B.S., Baylor University	
Margaret J. Todd	Speech
B.A., North Texas State University; M.A., Northwestern University	
Hugh C. Tomlinson.....	Business
B.S., M.Ed., East Texas State University	
Thomas Tooker	Counselor
A.B., University of Wichita; M.Ed., Texas A&M University	

FACULTY (Continued)

Walter Untersee.....	Aviation
Licensed Pilot	
Daniel von Rosenberg.....	Business Administration
B.B.A., The University of Texas; M.B.A., Texas A&M University	
Floyd Wagstaff.....	Director of Physical Education and Athletics
	Basketball Coach
B.S., Stephen F. Austin State College; M.A., North Texas State University	
Mary Frances Waldrop.....	English
B.A., M.A., Austin College	
Mary Yeager Wallace.....	Director of Counseling and Guidance
B.A., Hardin-Simmons University; M.A., The University of Texas	
Julia Warren.....	Assistant Librarian
A.B., Wiley College; M.S., North Carolina College at Durham	
Donald Watkins	Business
B.S., East Texas State University	
John Richard Wheat.....	Mathematics
B.A., Stephen F. Austin State College; M.S., University of Mississippi	
Larry Whitaker.....	Electronic Data Processing
B.A., Louisiana Tech	
James David Wicks.....	Chemistry
B.S., M.A., Southwest Texas State College	
Mary Ann Wilkinson.....	Nursing
B.S., Baylor University	
Mabel Williams.....	Chairman, Department of Mathematics
B.A., M.A., The University of Texas	
Lorraine Wolf	Psychology
B.A., The University of Texas; M.A., East Texas State University	
Fred A. Wright, Jr.....	Mathematics
B.S., Florida Southern College; M.A., Duke University	
Gladys Wylie	English
B.A., Rice University; M.A., Stephen F. Austin State College	
Jimmy D. Yancy.....	English
B.A., M.A., Stephen F. Austin State College	
Myra York.....	Audio-Visual Aids Coordinator
Donald Young	Mathematics
B.S., University of Texas; M.S., Southern Methodist University	
Radiance Young	English
B.S., Sam Houston State College; M.A., George Peabody College	
William Zeiss	Anthropology
B.S., M.S., East Texas State University	

THE HISTORY AND DEVELOPMENT OF TYLER JUNIOR COLLEGE

The original Tyler Junior College was established in 1926 as a part of the Tyler Public School System. It operated under this plan with a small enrollment until September 1, 1946.

On November 13, 1945, the voters established a new, independent Tyler Junior College District, authorized a tax levy for the support of the college, and authorized a bond issue for the erection of a new college plant on its own campus, separating it from the public school system on September 1, 1946.

Since then the Tyler Junior College District has been enlarged and extended by ten neighboring school districts which voted to become a part of the College District for junior college purposes only. The present Tyler Junior College District is now composed of the following districts:

The Tyler Independent School District.

The Winona Consolidated Rural High School District No. 67.

The Chapel Hill Independent School District.

The Lindale Independent School District.

The Rice Consolidated Common School District No. 13.

The Dixie Rural High School District No. 5.

The Swan Consolidated Common School District No. 60.

The Pine Springs Common School District No. 48.

Flint Common School District No. 18.

Van Independent School District.

Grand Saline Independent School District.

The College is operated under statutory authority by its Board of Trustees, composed of eleven members.

Students residing in the Tyler Junior College District are entitled to priority in enrollment. Others are admitted if facilities are available, but the College reserves the right to limit the enrollment of students residing outside the Tyler Junior College District whenever in its judgment facilities are not available for additional students.

GENERAL INFORMATION

Objectives of the College. The curricula are intended to meet the needs of students who expect to take four years of college, of those who intend to enter professional schools, and of those who are preparing to begin life's work after completing a year or more in college. An important function of the Tyler Junior College is an adult education program to meet the needs of the area.

Accrediting. The Tyler Junior College is a member of the Association of Colleges and Secondary Schools for the Southern States, the Texas Association of Colleges and Universities, and the Texas Association of Music Schools.

Membership in these accrediting associations makes possible the transfer of credit for work done in Tyler Junior College to other colleges and universities.

Since colleges differ in their curricula, a student should secure the catalogue of the institution to which he intends to transfer credit. Courses for his first two years should be planned in accordance with the degree plan of the institution to which he will transfer.

Admission. Registration for the fall semester begins in June and continues daily throughout the summer. By this system the student is assured of thorough and leisurely counseling on degree plans and personal problems.

Students will avoid delay in registering by sending a transcript of credits from the high school or college last attended.

1. Admission by Graduation from High School.

Graduation from a standard high school with at least fifteen units of high school credit, including three units in English, is required. The elective units must be chosen from the list approved by the Texas Education Agency.

2. Admission by Examination.

Mature students who are not graduates of a high school may absolve the deficiency by taking examinations.

3. Admission of Transfer Students.

A student seeking to transfer to Tyler Junior College after attending another accredited college or university must:

- a. Present a complete transcript, bearing impress of seal and signature of college official. The document

should include the previous admission record and evidence of honorable dismissal.

b. Continue on scholastic probation at Tyler Junior College if he has been placed on probation at another institution.

c. Not seek to be admitted to Tyler Junior College if he is on enforced scholastic withdrawal from another institution. Residents of the Tyler Junior College District may apply to the Academic Vice-President for special consideration.

A student transferring from another collegiate institution is not at liberty to disregard his collegiate record and apply for admission on the basis of his high school record or a part of his college record.

4. Special Admission.

A limited number of special adult students are admitted to evening classes upon individual approval.

5. The American College Testing Program Admission Requirement.

All regular beginning freshmen students (those with 12 semester hours or more) must submit scores of the American College Testing Program. No other scores are acceptable in substitution. The scores are used for counseling and placement purposes.

It is the student's responsibility to see that these scores are reported to the Registrar well in advance of actual enrollment. Students who were not able to take the tests, however, may do so after arrival on the campus.

The American College Testing Program tests are scheduled for February 8, 1969; April 26, 1969 and July 19, 1969; at Tyler Junior College and other conveniently located centers in Texas and elsewhere. A list of them will be found in the Student Information Bulletin of the American College Testing Program testing service. Such information booklets and registration forms may be obtained from high school or college counselors or Registrars.

Transfer students with less than fifteen semester hours of credit must submit the American College Testing Program scores.

Registration and Withdrawal Regulations

Responsibility for Admission Requirements. The student himself is responsible for meeting all admission requirements including furnishing the necessary transcripts of his work. His failure to meet all requirements within a reasonable period of time after registration may cause him to be placed on non-credit status in all work for which he has been enrolled.

Late Registration. Students should register at the scheduled times in order to have the widest choice of courses and to make the registration procedure more uniform. With approval of the Academic Vice-President or the Director of the Evening Division, a student may be permitted to enroll after the scheduled period, but a late registration fee of \$7.50 will be charged.

Adding and Dropping Courses. After the beginning of classes, adding or changing of courses will be approved only for the most pressing of reasons such as change of degree plan, conflict of classes, etc. The final date for such changes is the last day of the first week of classes. Application for such changes is made in the Registrar's office.

Quantity of Work Rule. The standard amount of credit work for each student in the regular session is fifteen or sixteen hours a semester exclusive of physical activity courses.

The standard amount of credit work for each student in the summer session is six hours a summer term.

Withdrawals. A student desiring to withdraw from school must submit a withdrawal petition to the Registrar's Office.

Attendance. Regular class attendance is fundamental for the success of the student; therefore, a student must report promptly and regularly to all classes. Excessive absence is cause for dropping the student from the rolls.

Guidance and Counseling. The college offers an extensive program in testing, guidance and counseling, under the supervision of the Director of Guidance and Counseling.

Grades and Reports. Students or parents receive grade reports every nine weeks. The standing of the student in each course is determined by his class performance and by regular examinations. Two hours is considered a reasonable amount of time for average students to spend in preparation for each hour of class work.

Students' grades may be interpreted as follows:

A Excellent	X Official drop while passing
B Good	XF Official drop while failing
C Average	Q Unofficial drop
D Poor	W Official withdrawal from
E Conditional*	college while passing
F Failure	WF Official withdrawal from
I Incomplete**	college while failing

* A student making E will be permitted to remove the condition by a second examination within a semester.

** An incomplete must be made up within the following semester. After this time it is changed to F.

Numbering of Courses. One semester hour represents one class hour per week for four and a half months; for example, one course meeting three hours a week for nine months carries credit of six semester hours.

Courses are numbered as follows (except in nursing): The first digit of the number indicates the college year in which the course is taken; the second digit in the number indicates the semester of the year in which the course is taken; the final digit indicates the credit value of the course in semester hours; thus, English 123 indicates that the course is the first year, second semester English with a credit value of three semester hours. The addition of a lower case letter indicates that the course is taught in two or more divisions.

In the case of courses offered only in the summer the number 3 as the middle digit indicates the first summer term. The number 4 indicates the second term. The course number 143 therefore indicates a freshman level subject normally taught in the second summer term for three hours credit.

All descriptive titles of courses are followed by two numbers in parenthesis. The first of these numbers gives the number of class meetings each week while the second number gives the number of hours of laboratory each week. For example, the notation (3-2) indicates that a course has three class meetings and two hours of laboratory weekly.

Transfer to Other Institutions. Since colleges differ in their curricula, a student should secure the catalogue of the institution to which he intends to transfer credit. Courses for his first two years should be planned in accordance with the degree plan of the institution to which he will transfer.

Student Load. Except by special permission from the Academic Vice President, a student will not be permitted to register for fewer than four or more than five courses.

Graduation, Degrees and Certificates

The college awards the Associate degree in the fields of liberal arts, applied arts, business administration, engineering, and science to those who complete the requirements as set forth for the particular degree desired and who make proper application to the Registrar for that degree. A diploma is awarded on successful completion of the two-year programs in Electronics and Electronic Data Processing.

For graduation transfer students must maintain a C average on all work attempted at Tyler Junior College.

For graduation the last fifteen semester hours must be completed in Tyler Junior College.

Students who graduate are required to attend the commencement exercises unless excused.

Associate in Arts Degree. Students who complete specified liberal arts or pre-professional requirements for graduation receive the Associate in Arts Degree. Students must complete sixty semester hours of work (exclusive of physical training and Psychology III) with an average grade of at least C.

The sixty semester hours should include twelve hours in English, six in United States History, six in government, and at least fifteen hours of sophomore rank; however, the degree will be granted to any student completing any required sixty hours of a baccalaureate degree plan, provided Government 213-223, English 113-123, United States History 213-223, and the required physical training, are included and the general average is at least C.

Associate in Business Administration Degree. The degree of Associate in Business Administration is conferred upon students who complete a minimum of sixty semester hours (exclusive of physical training and Psychology III) combining liberal arts with a concentration of secretarial, business administration or Electronic Data Processing courses, provided a minimum of a "C" average is maintained and six hours each are completed in English, United States History and Government.

Associate in Applied Arts Degree. The degree of Associate in Applied Arts is conferred upon students who complete a minimum of sixty semester hours (exclusive of physical training and Psychology III) combining liberal arts with a concentration of technical illustration courses, provided a minimum of a "C" average is maintained and six hours each are completed in American History, Government and English.

Associate in Applied Engineering Degree. The degree of Associate in Applied Engineering is conferred upon students who complete, with a minimum of "C" average, a total of sixty hours (exclusive of physical training and Psychology III) in required concentrations in technological fields such as Surveying, Drafting or Petroleum Technology, and provided six hours each are completed in English, U.S. History and Government.

Associate in Science Degree. The degree of Associate in Science is conferred upon students who complete a minimum of sixty hours (exclusive of physical training and Psychology III), combining liberal arts in combination with nursing courses. An average of at least C must be attained. Government 213-223, six hours of United States History and six hours of English must be completed. One year of physical training is required.

Diploma Programs. Diplomas are granted to those who complete the required courses in the fields of Electronics and Electronic Data Processing as outlined on Pages 87-93 of this catalogue.

Proficiency Certificates. Students who satisfactorily complete certain courses of a vocational nature or those who satisfactorily complete technological courses without taking liberal arts courses for a degree are awarded certificates of proficiency.

Physical Education Requirements. Participation in physical education activity is required of all freshmen in Tyler Junior College. However, most degree plans require two years of such courses and most students elect to meet this requirement in Tyler Junior College.

Substitution of participation in the Apache Band or Belles or intercollegiate athletic squad training during the season of the sport is allowed.

Psychology 111 Requirement. All beginning freshmen are required to enroll in and attend the college orientation course Psychology 111.

Buildings and Facilities

The Tyler Junior College occupies a 76-acre campus upon which fourteen modern buildings, primarily of colonial architecture, have been erected.

H. E. Jenkins Hall. Many of the academic classes are held in this building and in it also are located the business offices, laboratories, and various special rooms.

The Academic Building. This modern building includes offices, classrooms, laboratories and special facilities.

The Wise Auditorium - Fine Arts Building. This building, erected from the proceeds of a bond issue and a substantial gift from the Hon. Watson W. Wise, includes an auditorium of surpassing beauty, in addition to special rooms for music, art, drama, and speech arts.

The Technology Building. This building, completed in 1966, includes special classrooms and laboratories for instruction in petroleum technology, electronics, surveying, drafting, advertising arts, electronic data processing, and other technical courses.

The Applied Arts Building. This building contains the drama workshop, art classrooms, and various maintenance and utility facilities.

The Student Center Building. The College Bookstore, Snack Bar, student life offices, student recreational facilities, student lounges, and College Dining Hall are housed in this building.

Gentry Gymnasium. This is a modern gymnasium for women.

The Men's Gymnasium. This building provides modern facilities for a thorough program in physical fitness and for athletic activities as well as general programs. It has a seating capacity of 3000.

The Hudnall Planetarium. This building houses one of the largest planetariums in Texas as well as special facilities for space education.

The Edgar H. Vaughn Memorial Library. This learning resources center houses the Library; a complete Audio Visual Aids department with production facilities, both audio and video; and an ultra-modern computer controlled dial-access information retrieval center.

Two hundred electronically equipped study carrels provide the student with instant audio and/or video channels to basic or enrichment information in his courses.

Library. An excellent reference library consisting of more than 30,000 volumes is housed in the learning resources center. A competent staff of service librarians constantly seek to help the student in his use of this facility.

Student Housing

Reservations. Students wishing to make dormitory reservations should write to the Dormitory Director, Tyler Junior College, requesting an official application blank for this purpose. It must be accompanied by a deposit of \$30.00.

Students will be notified by mail of the date upon which they should arrive and the supplies which they should bring.

Dining Hall. Students living in the dormitories are required to take their meals in the College Dining Hall.

Dormitories. Four modern air-conditioned dormitories for men and two for women are maintained:

Lillye Mae Vaughn Hall. This residence hall was erected in 1958 and furnished through the generosity of Dr. and Mrs. Edgar H. Vaughn. It accommodates 48 women.

Claridge Hall. This privately owned, dormitory for 90 women is operated under the same regulations and supervision as those owned by Tyler Junior College.

East Hall. 40 men are accommodated in this dormitory.

Bateman Hall. This privately owned Dormitory for 166 men is operated under the same regulations and supervision as those owned by Tyler Junior College.

Center Hall. Facilities for 48 men are provided.

West Hall. Facilities for 48 men are provided.

Students accepting dormitory housing must agree to occupy it for the length of the college year.

Note—Non-resident or non-commuting students must reside in college dormitories. No apartments are permitted except to married couples.

Dormitory Holidays and Dining Hall Holidays

Thanksgiving Holidays. All dormitories will close November 26, 1969. They will reopen Sunday, November 30, 1969.

The dining hall will close following the noon meal November 26, 1969. It will reopen for breakfast Monday, December 1, 1969.

Christmas Holidays. The dormitories will close Friday, December 19, 1969. They will reopen Sunday, January 4, 1970.

The dining hall will close following the noon meal Friday, December 19, 1969. It will reopen for breakfast Monday, January 5, 1970.

Easter Holidays. The dormitories will close Wednesday, March 25, 1970. They will reopen Tuesday, March 31, 1970.

The dining hall will close following the noon meal Wednesday, March 25, 1970. It will reopen for breakfast Wednesday, April 1, 1970.

Tuition and Fees

Tuition rates in Tyler Junior College are low, since the college is partially supported by the State of Texas. Tuition is due in full at the beginning of the semester. Any other plan must be by special arrangement with the Business Manager. An additional fee of \$7.50 is charged for late registration — enrollment after the regularly scheduled registration days.

All tuition and fee charges are subject to change by the Texas State Legislature.

Tuition per semester is as follows:

Residents of the TJC District:	Tuition per semester
For three or more subjects.....	\$60.00
For two subjects	40.00
For one subject	20.00
 Texas Non-Residents of the TJC District:	 Tuition per semester
For three or more subjects.....	\$90.00
For two subjects	70.00
For one subject	35.00

Tuition rates for Evening Division courses for all residents of the State of Texas are the rates specified for residents of the Tyler Junior College District.

The tuition rate charged non-resident students is subject to increase without notice.

The Electronic Data Processing Program has a \$15.00 per semester rental fee in addition to the tuition.

For the tuition charged students in the technical, vocational and terminal courses — see special announcements of these courses. Page 80.

Statutory Fees. In accordance with the requirements of the statutes of the State of Texas all students in certain laboratory courses are charged an appropriate fee.

Music Fees Per Semester — Individual Lessons

	Regular Students Who Enroll for 12 Sem. Hours or More		Special Students Who Enroll for Music Only	
	One 30-min. Lesson Per Week	Two 30-min. Lessons Per Week	One 30-min. Lesson Per Week	Two 30-min. Lessons Per Week
Piano.....	\$75.00	\$100.00	\$90.00**	\$180.00**
Voice.....	75.00	100.00	90.00**	180.00**
Violin, Violoncello....	75.00	100.00	90.00**	180.00**
Harp.....	75.00	100.00	90.00**	180.00**
Organ.....	75.00	100.00	90.00**	180.00**
Clarinet.....	75.00	100.00	90.00**	180.00**
Practice Room (four hours per week).....	\$ 4.00			

** Includes tuition plus special music fee.

Graduation Fees. A fee of \$7.50 is paid by students at the time of graduation.

Non-Resident Tuition. Students whose residence is outside the State of Texas, and who are thereby classified as non-resident students according to the definition provided by House Bill 507 (enacted by the Fiftieth Legislature of the State of Texas,) are charged a non-resident tuition of \$200.00 per semester for a full student load of twelve hours or more in accordance with the provisions of House Bill 507. The non-resident fee is subject to change without notice.

For less than twelve semester hours the non-resident rate is \$25.00 per semester hour, with a minimum of \$25.00.

Refund Policy. No refund of tuition will be made except for withdrawals effected during the first two weeks of the regular semester. Qualified applicants will be subject to a 20 per cent tuition charge. To qualify for the refund the applicant must have withdrawn by completing proper forms in the Registrar's office.

Student Aids, Awards, Loans and Scholarships

The Honor Graduate Scholarship. The highest honor graduate of any affiliated high school is given a scholarship covering his tuition. This scholarship must be used within one year from the date of graduation.

The A.A.U.W. Women's Graduate Scholarship. The Tyler Branch of the American Association of University Women has established an annual scholarship of \$100 to be awarded to a woman graduate. The scholarship is awarded on the basis of scholarship, character, and need and is to be used for tuition and fees at the senior institution chosen by the student. The grantee is chosen by a scholarship committee of the A.A.U.W. from a list of three nominees by the college.

Art Merit Award. The Junior League of Tyler has established a \$100 annual award to be granted to the student showing the greatest achievement in the field of art.

Alpha Delta Kappa Scholarship. The Tyler Teachers Honorary Sorority Alpha Delta Kappa has established an annual tuition scholarship for a student who plans to become a teacher. The scholarship is granted on the basis of ability and prospective success in the field.

The Crusaders Scholarship. The Crusaders Class of the Marvin Methodist Church awards an annual scholarship in the amount of \$125 to a worthy student.

The Advance Class Scholarship. The Advance Class of the Glenwood Methodist Church gives two full tuition-fee-books scholarships annually to selected students.

Granberry Pre-Dental Scholarship. Dr. James H. Granberry, an alumnus of Tyler Junior College, has established an annual scholarship covering tuition, fees, and books for a pre-dental student. The scholarship is granted at the end of the freshman year to such a student demonstrating high ability and need.

The Coterie Club. The Coterie Club, composed of musicians and music lovers, has established a scholarship which is awarded annually to a student who shows outstanding talent in music.

The Florence and Marcus Strum Scholarships. Mr. and Mrs. Marcus Strum of Tyler have established two tuition scholarships. The recipients must have reached sophomore standing and are selected on the basis of character, ability, and need.

The Mr. and Mrs. Arthur Squyres Scholarship. Mr. and Mrs. Arthur Squyres of Tyler have established tuition and books scholarship for a graduate of Emmett Scott High School. The recipient is selected on the basis of character, ability, and need.

The Wilton Fair Endowment. Mr. and Mrs. Wilton Fair have established an endowment which is used each year for scholarships and similar purposes.

This endowment consists of the revenue from certain valuable oil properties deeded to the college. Mr. Fair, a former member of the Board of Trustees of Tyler Junior College and one of its most active supporters, and Mrs. Fair established this fund in 1952.

The Pirtle Scholarship in Science and Engineering. Through the generosity of Mr. and Mrs. George Pirtle an annual scholarship of five hundred dollars is bestowed upon a graduating student majoring in engineering or a physical science.

The Texas Society of Professional Engineers Scholarship in Mathematics, Science or Engineering. The Texas Society of Professional Engineers has established a five hundred dollar scholarship made to a graduating Tyler Junior College man or woman who plans to continue study leading to a degree in engineering, chemistry, geology, physics, or mathematics.

The Breakfast Optimists' Club Scholarships. The Breakfast Optimists' Club of Tyler has established an endowment fund from which the income is used for scholarships for students designated by a committee composed of the President and President of the Board of Trustees of Tyler Junior College and the President and Secretary-Treasurer of the club.

Opti-Mrs. Club Scholarship. The Opti-Mrs. Club, composed of the wives of the various Optimist Club members of Tyler, has established a \$120 tuition scholarship for a sophomore student based upon ability and need. The student chosen must be a resident of the Tyler Junior College District.

The Mary Wallace Education Scholarship. A \$120 annual scholarship for a second year student preparing for the teaching profession. The recipient must be of good character, pleasing personality, hold at least a B average in two semesters work and need scholarship aid.

The Tyler Legal Secretaries Association Scholarship. The Tyler Legal Secretaries Association has created an annual tuition scholarship for a woman resident of the Tyler Junior College District. The recipient must be in a Secretarial Training program. Preference is given to one who indicates a desire to become a Legal Secretary. Aptitude and need are considered.

The En Avant Club. The En Avant Club, a group of civic-minded young ladies, annually provides a scholarship to some young woman.

Lieutenant Ward van Orden Memorial Scholarship. This is an annual scholarship of \$200.00 awarded to a freshman student on the basis of need coupled with proven college scholarship. It is made without consideration of race, color or creed in memory of Lt. van Orden, a graduate of Tyler Junior College who as a Navy Jet Fighter Pilot lost his life off North Viet Nam after 150 combat missions.

John Tyler Parent-Teacher Association Scholarship. A John Tyler graduate whose parent has been a member of the Parent-Teacher Association is eligible for the John Tyler Parent-Teacher Association Scholarship on the basis of ability and need.

The recipient is eligible to receive \$100 per year for the two-year Junior College period. Application may be made through the High School Counselor.

The Optimist Club Oratorical Scholarship. The Optimist Club of Tyler has established a \$100 scholarship in Tyler Junior College for the winner of the annual oratorical contest.

The T. B. Butler Journalism Key. The T. B. Butler Publishing Company of Tyler annually presents a gold key to the outstanding Journalism student of the college.

Journalism Ex-Students Award. The Journalism Ex-Students Association annually awards a cash scholarship to an outstanding student majoring in Journalism.

E. Fred Herschbach Language Award. Because of his interest in the teaching of German, Mr. E. Fred Herschbach annually

offers an appropriate plaque with a cash award to the outstanding second year student of the German language.

The Watson W. Wise Incentive Award. An endowment fund established by the Honorable Watson W. Wise, member of the Board of Trustees of the college, who has made many generous gifts to the college, provides an annual sum for a scholarship and beautiful trophy cup awarded to the student chosen by a faculty committee as the best exemplifying the virtues of industry, scholarship, and student activity.

Tyler Lions Club Scholarships. The Tyler Lions Club has established two annual scholarships of up to \$250 each for students in the Tyler High Schools and Tyler Junior College. The scholarships are restricted to students whose legal residence is in the City of Tyler and who combine qualities of good character and scholarship with need. The scholarships are designed to pay for tuition, fees, and books. Students will be recommended by the high school counsellors and designated by the Board of Directors of the Tyler Lions Club.

The D.A.R. Scholarship. The Mary Tyler Chapter of the Daughters of American Revolution awards a \$100 scholarship annually to an outstanding woman student who is completing her freshman year.

The Juried Arts Scholarships. Juried Arts, Incorporated annually presents one or more patron scholarships to students majoring in Art.

The Century Scholarship. The Century Class of ladies of the Marvin Methodist Church awards \$120 annually to a local girl on the basis of character, ability and need.

Sales and Marketing Executive Scholarship. The Tyler Sales and Marketing Executive Club has established one or more scholarships for talented, deserving students entering college who intend to pursue a career in sales and marketing. These are awarded through the College Scholarship Committee.

Smith County Bar Association Scholarship. The Smith County Bar Association has established an annual scholarship of \$150 which is granted to a student completing his freshman year and planning to major in History, Government or Economics or to one registered in a pre-law program of any kind.

The award is deposited with Tyler Junior College for the student's expenses in his second year. Outstanding scholarship

and participation in extra-curricular activities are the basic qualifications upon which the choice is made. Need of the student is a secondary qualification.

The Texas Opportunity Plan Loans. Students who are residents of Texas may, if qualified, receive loans to cover expenses while attending Tyler Junior College provided by the Texas Opportunity Loan Fund of the State of Texas.

Mr. Gene Blakely is the official loan officer and applications should be made directly to him.

The Tyler City Council of Parents and Teachers Scholarship. The Tyler City Council of Parents and Teachers has established an annual scholarship not to exceed \$200 or as much of that amount as is required for tuition, books, fees, etc.

The scholarship is granted to an outstanding and deserving boy or girl graduate of Robert E. Lee or John Tyler High School. Application for the scholarship may be made to the Counselor of the high schools, any member of the Scholarship Committee, or any of the Local Unit Presidents.

Women's Symphony League Scholarship. The Tyler Women's Symphony League annually grants a \$150 scholarship to an outstanding woman music student.

John Ben Sheppard Scholarship. The Texas Law Enforcement Foundation created the John Ben Sheppard Scholarship Fund to provide college educations for children of Texas law enforcement officials killed in performance of duty.

The fund makes college scholarships available for children of law enforcement officers on any level of jurisdiction killed in the performance of duty. The amount of a grant depends on the need of the student.

A Scholarship Committee composed of members of the board of directors of the Texas Law Enforcement Foundation will consider the following points in screening qualified scholarship applicants:

- (1) Aptitude for college work,
- (2) Desire for college training,
- (3) Financial need.

Connally-Carillo Scholarships. Under the provisions of the Connally-Carillo Act the State of Texas pays the tuition and fees of students who graduated in the upper quarter of their class in an accredited high school provided the family income for the preceding year did not exceed \$4800.00.

Texas Law Enforcement Foundation Scholarships. The Texas Law Enforcement Foundation makes available scholarships for sons and daughters of deceased law enforcement officials. Application blanks for this or the John Ben Sheppard Scholarship may be obtained from the Foundation Office, 3914 Seminole, Houston 27, Texas.

Veterans' G.I. Bill of Rights. Veterans with military service since 1955 are eligible for federal payments and benefits while attending Tyler Junior College.

Mr. Herbert Richardson is the Veteran's Counselor, veterans may see him or phone him for information and assistance in applying for these benefits.

Veteran Dependency Scholarships. The Federal Government has set up provisions in Public Law 634 whereby certain veteran dependents may be eligible for a subsidy while pursuing their education. Orphans of service personnel and dependents of veterans with service connected disability may find themselves eligible.

Vocational Rehabilitation Assistance. The State Board of Vocational Education, through the Vocational Rehabilitation Division offers assistance for tuition to students who have physical disabilities, provided the vocational objective selected by the disabled person has been approved by a representative of the Division. Application for Vocational Rehabilitation assistance should be made to the Rehabilitation office, Box 2034, Longview, Texas, or to the Director of Vocational Rehabilitation, Texas Education Agency, Austin, Texas.

Student Activities

The Tyler Junior College provides various types of student activities which furnish training in leadership, afford opportunities for recreation, and serve as a means of student development. Among these activities are the following:

The Apache. The Apache is the college yearbook. It is an outstanding publication edited and published by a student staff.

The Apache Band. The internationally-famous Apache Band is the official college band, open to all qualified students.

The Apache Belles. The internationally-famous Apache Belles is a uniformed women's organization which presents skilled group performances and routines at football games, and on other occasions.

Throughout the year special study is given to good taste in clothing, make-up, manners and general personal improvement.

The TJC Pow-Wow. The Pow-Wow, the official college newspaper, is prepared and managed by a student staff under the direction of faculty sponsors. Students act as reporters, editors, and business managers of this publication. The paper is furnished free to students.

For twenty-one consecutive times the Apache Pow-Wow has won the highest award given by the Associated Collegiate Press. This award, The **All American Honor Rating**, is given in recognition of merit to a limited number of colleges and universities annually.

The Apache Guard Association. A service organization of college men dedicated to the development of college spirit and good sportsmanship. The association sponsors worthwhile projects.

Athletics. The college schedules intercollegiate competition in football, basketball, baseball, tennis and golf. For non-varsity students an extensive schedule of intramural sports and the physical education program affords all students many opportunities for participation.

The Singing Apaches. The Singing Apaches is a choral society open to capable students interested in vocal music.

The Engineers' Club. This club is composed of students interested in all fields of engineering. Various field trips are taken to indicate the future possibilities of the different branches of the engineering profession.

Sigma Sigma. This organization consists of students preparing to enter the business vocations, such as secretarial and clerical. It provides helpful guidance to the members of the club, as well as pleasant social activities.

The French Club. Le Cercle Francais welcomes students who are interested in France, the French language, and in the French way of life. Bi-weekly business meetings are conducted and its members gather socially one night each month for films, refreshments, and other recreational activities.

Old Heidelberg Club. This organization, sponsored by the German Department, invites those interested in the study of the language, culture and traditions of the German people.

Las Mascaras Dramatic and Forensic Club. Las Mascaras fosters an interest in all phases of forensic and dramatic art. Any student in Tyler Junior College who is interested in them is eligible for membership. Las Mascaras sponsors major dramatic productions and forensic competitions each year.

Phi Theta Kappa. The Alpha Omicron Chapter of Phi Theta Kappa, the national Junior College scholastic fraternity, is composed of members selected on the basis of scholarship, character, leadership and service. Its membership is restricted to ten percent of the students enrolled in the Tyler Junior College, and the faculty and local chapter name as members those students meriting special honor.

The Student Senate. The Student Senate is the official organization for student government.

Social Activities. The social activities of the college include parties, dances, feature movies and other social affairs under the direction and management of the Student Senate and a faculty committee headed by the Dean of Student Life.

Community Concerts. The Tyler Community Concerts organization extends to any regular Tyler Junior College student the privilege of free admission to its concerts at Wise Auditorium on presentation of a valid Tyler Junior College Activity Card.

SUGGESTED COURSES OF STUDY FOR FRESHMEN

Planning a Program in Tyler Junior College. It is important that the beginning college student determines his objective at the time of enrollment and then plans his program to carry him directly to its achievement.

Tyler Junior College, with its Counseling Staff and broad course offerings, assists in planning each student's program to meet his needs.

Transfer students are given course plans designed to meet the special requirements of the degree choice at the chosen Senior College or University. Terminal program students are given courses which prepare them for the career of their choice.

The Texas Junior College Core Curriculum Program. Texas Public Junior College students planning to transfer in baccalaureate programs to Senior Colleges or Universities in the Texas System of Higher Education may, by law, follow special two-year programs as promulgated by the State Coordinating Board. Upon successful completion of the full two-year program of not more than sixty-six hours, the student may transfer it all en-bloc on the chosen degree objective. The student must have met the Senior institution's own grade requirements for its own students. The Senior institution will then permit the student all the privileges of its own students who began their program at the same time.

General Plans. The following plans are a few of the most popular fields. Their listing does not indicate that others cannot be taken. College officials will work out degree programs in any desired field.

Since college plans differ, the student should check his course by the catalogue of the college to which he intends to transfer or request the Registrar or Counselor to assist him in doing so.

All first year students take Physical Education unless excused by a doctor's statement.

Agriculture. (Texas A. & M. Plan. Special course plans for other institutions will be arranged.)

SUBJECT	CREDIT
English	6 semester hours
Chemistry	8 semester hours
Algebra	3 semester hours
Biology 124 B	4 semester hours
Agriculture	6 semester hours
United States History	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Bachelor of Arts or Bachelor of Science Degree.

English	6 semester hours
Mathematics	6 semester hours
United States History	6 semester hours
Natural Science	6 or 8 semester hours
Foreign Language	8 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Bachelor of Business Administration. (General Plan)

Mathematics	6 semester hours
English	6 semester hours
Natural Science	6 or 8 semester hours
Speech	3 semester hours
United States History	6 semester hours
Typewriting (non-credit)	0 semester hours
Elective	3 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Dentistry.

English	6 semester hours
Chemistry	8 semester hours
Biology	8 semester hours
United States History	6 semester hours
Elective	3 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Elementary Education Major.

English	6 semester hours
Mathematics or Foreign Language.....	6 or 8 semester hours
United States History	6 semester hours
Geology or General Biology.....	8 semester hours
Music or Art	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Secondary Education Major. The plan is the same as the above except music or art is not required unless the student plans to major in one of these fields. Others should substitute subjects in the chosen major fields for music or art.

Engineering. See complete optional plans, Pages 62-63.

Forestry.

English	6 semester hours
Algebra	3 semester hours
Biology	8 semester hours
Trigonometry	3 semester hours
Engineering Drawing	3 semester hours
Descriptive Geometry	3 semester hours
United States History	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Geology.

English	6 semester hours
Chemistry	8 semester hours
Trigonometry	3 semester hours
Algebra	3 semester hours
Analytic Geometry	3 semester hours
Geology	8 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Home Economics.

English	6 semester hours
Chemistry	6 or 8 semester hours
Home Economics	6 or 9 semester hours
Electives	6 semester hours
United States History	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Law.

United States History	6 semester hours
English	6 semester hours
Natural Science	8 semester hours
Mathematics	6 semester hours
Public Speaking	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Typewriting (non-credit, if taking the

Business Administration Plan) 0 semester hours

Mathematics. See mathematics section, Pages 62-63.

Medicine. (Associate Degree Plan)

English	6 semester hours
Chemistry	8 semester hours
Algebra	3 semester hours
Foreign Language	8 semester hours
United States History	3 semester hours
Biology	8 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Music.**Bachelor of Music Degree****Freshman Year**

Music 113T, 123T	6 semester hours
Music 113L, 123L	6 semester hours
Applied Music	8 semester hours
Musical Organizations	2 semester hours
English 113, 123	6 semester hours
United States History or Electives	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Sophomore Year

Music 213T, 223T	6 semester hours
Music 212T, 222T	4 semester hours
Applied Music	8 semester hours
Musical Organizations	2 semester hours
English 213, 223	6 semester hours
Government or Electives	6 semester hours

Physics. See physics section, Pages 75-76.

Professional Nursing. The Tyler Junior College, Medical Center Hospital, and Mother Frances Hospital cooperatively operate the Texas Eastern School of Nursing as a separate, non-profit corporation.

The School of Nursing is fully accredited by the National League of Nursing and the completion of its course of study leads to eligibility to take the State Examination for registration as a professional nurse with the title of R.N.

The following is the curriculum in Nursing for the first two academic years as taught in Tyler Junior College:

First Year — First Semester.

English 113	3 semester hours
Biology 113B	3 semester hours
Biology 114A	4 semester hours
Chemistry 113	3 semester hours
Psychology 213	3 semester hours
Nursing 112	2 semester hours

First Year — Second Semester.

English 123	3 semester hours
Biology 123B	3 semester hours
Chemistry 123	3 semester hours
Sociology 213	3 semester hours
H. E. 123C	3 semester hours
Nursing 122	2 semester hours

First Year — Summer (1st 6 weeks).

Nursing 133	3 semester hours
Pharmacology 144	4 semester hours

First Year — Summer (2nd 6 weeks).

Nursing 143	3 semester hours
Nursing 112*	2 semester hours
Nursing 122*	2 semester hours

Second Year — First Semester.

Nursing 214A	3 semester hours
Nursing 214B	6 semester hours
Psychology 223A	3 semester hours
History 213	3 semester hours
Government 213	3 semester hours

*This will be offered at this time only for transfer students who have not had Introduction to Nursing during the fall and spring semester.

Second Year — Second Semester.

Nursing 225	5 semester hours
Nursing 224	4 semester hours
History 223	3 semester hours
Government 223	3 semester hours

Pre-Nursing Baccalaureate Degree Plan—Freshman Year.

English	6 semester hours
United States History	6 semester hours
Biology	8 semester hours
Psychology	3 semester hours
Chemistry	6 semester hours
Sociology	3 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Optometry.

English	6 semester hours
Physics	8 semester hours
Chemistry	8 semester hours
Biology	8 semester hours
Mathematics	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Pharmacy.

English	6 semester hours
Biology	8 semester hours
Physics	8 semester hours
Chemistry	8 semester hours
United States History	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Journalism.

English	6 semester hours
Natural Science	6 or 8 semester hours
Foreign Language	8 semester hours
Mathematics or Electives (see senior college plan).....	3 semester hours
Journalism	3 semester hours
United States History	6 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

ONE YEAR BUSINESS AND COMMERCIAL COURSES

For business students interested in an intensive business course, the Certificate of Proficiency is awarded either in secretarial science, electronic data processing, or general business, upon completion of 30 semester hours of work. These courses are planned to train the student for work in an office. All courses listed under the suggested plan are required.

Secretarial Course

Shorthand 114S - 124S	
or Shorthand 214S - 224S	8 semester hours
Typewriting 213T - 223T*	6 semester hours
Secretarial Practice 113F - 123F	6 semester hours
Office Machines 113M	3 semester hours
Business Correspondence 113C	3 semester hours
Business Mathematics 113D	3 semester hours
Secretarial Accounting 123	3 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

General Business Course (1 year)

Typewriting 113T-123T or 213T-223T.....	6 semester hours
Accounting 113A-123A	6 semester hours
Economics 213-223	6 semester hours
Introduction to Business 113B.....	3 semester hours
Business Mathematics 113D	3 semester hours
Business Correspondence 113C	3 semester hours
Business Machines 113M	3 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

Electronic Data Processing (1 year)

English 113-123 or 223B	6 semester hours
Introduction to Business 113B	3 semester hours
Mathematics 113	3 semester hours
Accounting 113A-123A or approved electives	6 semester hours
Business Machines 113M	3 semester hours
Electronic Data Processing 113-123.....	6 semester hours
Speech 113A	3 semester hours
Psychology 111	1 semester hour
Physical Training	1 semester hour

* Students who have not developed some skill in typewriting cannot do secretarial practice nor shorthand.

SUGGESTED ASSOCIATE IN APPLIED BUSINESS ADMINISTRATION DEGREE PLANS.

GENERAL SECRETARIAL PROGRAM

First Year — First Semester.

English 113	3 semester hours
*Shorthand 114S	4 semester hours
*Typewriting 113T	3 semester hours
Secretarial Practice 113F	3 semester hours
History 213	3 semester hours
Psychology 111	1 semester hour
Physical Education	1 semester hour

First Year — Second Semester.

English 123 or 223B	3 semester hours
Shorthand 124S	4 semester hours
Typewriting 123T	3 semester hours
Secretarial Practice 123F	3 semester hours
History 223	3 semester hours
Physical Education	1 semester hour

Second Year — First Semester.

Government 213	3 semester hours
Business Mathematics 113D	3 semester hours
Office Machines 113M	3 semester hours
Shorthand 214S	4 semester hours
Elective (Economics 213 or Accounting 113A recommended)	3 semester hours

Second Year — Second Semester.

Government 223	3 semester hours
Secretarial Accounting 123	3 semester hours
Business Correspondence 113C	3 semester hours
Shorthand 224S or Executive Secretaryship 223F	3 or 4 semester hours
Elective (Economics 223 or Accounting 123A recommended)	3 semester hours

* Students will be placed in typing and shorthand at determined proficiency levels and professional electives substituted where warranted.

MEDICAL SECRETARIAL PROGRAM**First Year — First Semester.**

English 113	3 semester hours
*Shorthand 114S	4 semester hours
*Typewriting 113T	3 semester hours
Business Mathematics 113D	3 semester hours
Biology 114	4 semester hours
Psychology 111	1 semester hour
Physical Education	1 semester hour

First Year — Second Semester.

English 123 or 223B	3 semester hours
Typewriting 123T	3 semester hours
Shorthand 124S	4 semester hours
Secretarial Accounting 123	3 semester hours
Office Machines 113M	3 semester hours
Physical Education	1 semester hour

Second Year — First Semester.

Government 213	3 semester hours
Psychology 213	3 semester hours
Typewriting 213T	3 semester hours
Shorthand 214S	4 semester hours
(Medical Secretary Option)	
Anatomy & Physiology 113B	3 semester hours

Second Year — Second Semester.

Government 223	3 semester hours
Business Correspondence 113C	3 semester hours
Anatomy & Physiology 123B	3 semester hours
Secretarial Practice 223F	3 semester hours
Shorthand 224S	4 semester hours
(Medical Secretary Option)	

* Students will be placed in typing and shorthand at determined proficiency levels and professional electives substituted where warranted.

LEGAL SECRETARIAL PROGRAM

First Year — First Semester.

English 113	3 semester hours
*Typewriting 113T	3 semester hours
*Shorthand 114S	4 semester hours
Business Mathematics 113D	3 semester hours
Introduction To Business 113B	3 semester hours
Physical Education	1 semester hour
Psychology 111	1 semester hour

First Year — Second Semester.

English 123 or 223B	3 semester hours
Typewriting 123T	3 semester hours
Shorthand 124S	4 semester hours
Business and Professional Speaking 223A.....	3 semester hours
Secretarial Accounting 123	3 semester hours
Physical Education	1 semester hour

Second Year — First Semester.

Government 213	3 semester hours
Office Machines 113M	3 semester hours
Shorthand 214S (Legal Secretary Option).....	4 semester hours
Typewriting 213T	3 semester hours
Psychology 213	3 semester hours

Second Year — Second Semester.

Government 223	3 semester hours
Secretarial Practice 223F	3 semester hours
Shorthand 224S (Legal Secretary Option).....	4 semester hours
Psychology 223	3 semester hours
Business Correspondence 113C	3 semester hours

* Students will be placed in typing and shorthand at determined proficiency levels and professional electives substituted where warranted.

GENERAL OFFICE OCCUPATIONS**First Year — First Semester.**

English 113	3 semester hours
*Typewriting 113T	3 semester hours
Elementary Accounting 113A	3 semester hours
Introduction to Business 113B	3 semester hours
Business Mathematics 113D	3 semester hours
Psychology 111	1 semester hour
Physical Education	1 semester hour

First Year — Second Semester.

English 123 or 223B	3 semester hours
Typewriting 123T	3 semester hours
Elementary Accounting 123A	3 semester hours
Business and Professional Speaking 223A	3 semester hours
Business Correspondence 113C	3 semester hours
Physical Education	1 semester hour

Second Year — First Semester.

Government 213	3 semester hours
Economics 213	3 semester hours
Typewriting 213T	3 semester hours
Office Machines 113M	3 semester hours
Psychology 213	3 semester hours

Second Year — Second Semester.

Government 213	3 semester hours
Economics 223	3 semester hours
Psychology 223	3 semester hours
Electives	6 semester hours

* Students will be placed in typing at determined proficiency levels and professional electives substituted where warranted.

Description of Courses

For a description of the system of numbering of courses, see page 20 of this catalogue.

Agriculture Courses with the Asterisk are offered in 1969-70.

Agriculture 113 — General Animal Husbandry (2-2) An introductory survey course intended to acquaint the student with the importance of livestock and livestock farming. General factors influencing efficiency in feeding, market value, breeding, health and adaptability of various species to geographical and climatic regions are studied. The course is designed to develop in the student an appreciation of improved livestock. Selecting and judging the various breeds and market classes are stressed in laboratory.

Agriculture 114A — General Entomology (3-2) The systematic study of the principal orders of insects; the relation of the anatomy of the insect to control measures; the life histories of the more common insects; methods of control for injurious forms.

Agriculture 113B — Dairying (2-2) Dairying in its relation to agriculture and community development; branches of dairy industry and conditions affecting their development; the place of dairying on the farm; composition and food value of milk and its products; the production and handling of clean milk on the farm.

***Agriculture 113C — Poultry Production (2-2)** The breeds and types of poultry, culling, poultry for egg production, incubation, brooding and feeding for growth and egg production, winter and summer management, housing and hygiene, preparing poultry for market, methods of marketing; practical application of these subjects to general farm conditions. The practice consists of the identification of breeds and varieties, judging, poultry for egg production, plans for poultry farms and poultry houses, identification of feeds.

***Agriculture 113E — Introduction to Agricultural Economics (3-0)** Characteristics of our economic system and basic economic principles. Organization and management of the farm and ranch firm; structure and operation of the agricultural marketing system; functional and institutional aspects of agricultural finance; the farm problem, its causes, consequences and suggested solutions.

Agriculture 113F — Farm Management (3-0) The art and business of managing a farm, including the study of choosing suitable major and minor enterprises that will provide a profitable business; such as selecting a farm, using proper kinds and amount of labor and capital, simple and accurate cultural organizations, agriculture experiment and extension service.

Agriculture 113G — Landscaping (3-0) This course will acquaint the student with trees, shrubs, grasses perennials, and annuals suitable for landscaping the home grounds, churches, schools, and parks. Biological classification, plant characteristics, best combinations, propagation methods, digging, bagging, transplanting, pruning, and care will be studied.

***Agriculture 123 — Fundamentals of Crop Production (2-2)** Classification and distribution of farm crops; importance of good varieties and good seed; crop improvement; preparation of the seed bed, commercial fertilizers, manures and lime; seeding practices; crop tillage; harvesting; meadow and pasture management; weeds; crop rotation; diseases and insect enemies.

***Agriculture 123D — Wildlife Management (3-0)** A course designed to acquaint the student with the wildlife resources of the United States with special reference to Texas. Emphasis is placed on the inter-relationship of plants and animals in our environment with plans and methods for rehabilitation, maintenance and increase of the desirable species.

Agriculture 123B — Horticulture (2-3) A general study of horticulture; the growth and fruiting habits of horticulture plants; a study of the principles and practices of propagating vegetables, fruits and ornamentals, including the methods of handling seed, cuttage, layerage, grafting, budding and bulbs; a study of the planting, fertilization, care, culture, harvesting, handling and utilization of fruit and vegetable crops. Prerequisite: Biology 114B or taken concurrently.

Agriculture 123C — Marketing of Agriculture Products (3-0) A study of the general principles, practices, and problems involved in marketing farm products.

*** Art**

Art 113 — Creative Design (2-4) Fundamental experience with

* Students planning to transfer art credit on a bachelors degree are required to prepare and retain a portfolio of their work to facilitate their transfer.

various materials; emphasis upon the development of an awareness of the factors of visual expression, color, form and design.

Art 113A — Home Planning and Furnishing (Interior Decoration) (3-0) This course includes a study of floor plans in relation to the work units and furnishings of the home and the selection and placing of furnishings suited to the modern home.

Art 113B — Theory and Practice of Design (2-4) A basic course in the fundamentals of color and form with emphasis on oils.

Art 113C — Freehand Drawing (3-3) A course designed to acquaint the student with the principles of freehand drawing with special emphasis on life drawing in charcoal and other media.

Art 123 — Creative Design (2-4) A basic course in the fundamentals of color and drawing in design.

Art 123B — Theory and Practice of Design (2-4) A continuation of Art 113B with emphasis upon still life and the human figure.

Art 123C — Freehand Drawing (3-3) A continuation of Art 113C. Prerequisite Art 113C.

Art 114B — Elementary Design (2-4) Materials, techniques and media for Creative Art at the elementary level. May not be counted by art majors.

Art 124B — Elementary Design (2-4) A continuation of Art 114B. May not be counted by art majors.

Art 213 — History of Art I (3-0) A survey of the development of architecture, sculpture, painting and the minor arts from pre-historic time to the end of the Middle Ages. An analysis of art elements as applied to various forms of visual expression and an examination of characteristic styles as related to period cultures. Illustrated lectures.

Art 223 — History of Art II (3-0) A survey of the development of the arts and architecture in western Europe and America from the Renaissance through the twentieth century. Illustrated lectures.

Bible

These courses are given by affiliation with the Baptist Chair of Bible, the Bible Chair of Texas Methodist Student Movement, The Fifth Street Presbyterian Bible Chair, and the Church of Christ Bible Chair. A maximum of twelve semester hours is accepted toward a degree.

Bible 111 — Selected Studies in the Old Testament (1-0) A brief course of study involving either an Old Testament book or theme.

Bible 111A — Selected Studies in the New Testament (1-0) A brief course of study involving either a New Testament book or theme.

Bible 111B — Selected Studies in Church History (1-0) A brief course of study involving either a general synopsis of Church History, a particular era of Church History, or a History of the Bible.

Bible 111C — An Introduction to Christianity (1-0) A brief course of study involving theological terms, great Bible themes, and a comparison of Christianity with other religions.

Bible 113 — Old Testament Survey (3-0) A study of all the books of the Old Testament giving attention to the historical setting, the message, and the place of each book in its relation to the Bible as a whole.

Bible 123 — New Testament Survey (3-0) A study of all the books of the New Testament as to author, message, and relation to the entire Bible.

Bible 213 — Life and Teachings of Jesus (3-0) A study of the life of Jesus and His teachings as applied to present-day life.

Bible 223 — Life and Teachings of Paul (3-0) A study of the life and teachings of Paul and their part in the early spread of Christianity.

Biology

Biology 114 — Animal Biology (3-3) An introductory study of the nature of protoplasm and the structure and function of cells is followed by a survey of the animal kingdom, with emphasis on such forms as are of human interest or application. There follows a study of adaptations in selected types as a basis for a consideration of the origin of species and the principles of organic evolution. This course may be followed, or preceded, by Biology 124B by students desiring a year of general biology; it should be followed, or preceded, by Biology 124 by those desiring general zoology.

Biology 124 — Animal Biology (3-3) A study of organ systems of vertebrates, with special reference to man, followed by an introduction to embryology and to the basic principles of heredity.

Biology 124B — General Botany (3-3) An introduction to the plant kingdom with emphasis on the importance of plants to man.

Biology 113B — Anatomy and Physiology (2-2) A study of the anatomy and physiology of the human body. It emphasizes biological principles as applied to vertebrates in general and man in particular.

Biology 123B — Anatomy and Physiology (2-2) A continuation of Biology 113B.

Biology 114A — Microbiology (3-2) The characteristics and activities of microorganisms and their relation to health and disease.

Biology 224 — Comparative Vertebrate Anatomy (3-4) A comparative study of the morphology, physiology, and phylogenesis of vertebrate organ systems. Required of pre dental, premedical and biology majors. Prerequisite: Biology 114 and 124 or 124B.

Business Administration

Business Administration 113 — Oil and Gas Law (3-0) A course designed for workers in petroleum production, leasing, scouting and other oil industry activities.

Business Administration 113A — Elementary Accounting (3-0) Fundamental principles of double-entry bookkeeping applied to a sole proprietorship. Emphasis is given to the following records: financial statements, trial balance, working sheet, special journals, fixed assets and depreciation, notes, and a practice set covering the complete bookkeeping cycle.

Business Administration 123A — Elementary Accounting (3-0) A continuation of Elementary Accounting 113A. Attention is given to accrued income, accrued liabilities, deferred charges, deferred credits, depreciation, bad debts, taxes, reserves, controlling accounts, and business vouchers. Two practice sets for a sole proprietorship are completed, and bookkeeping for partnerships and corporations are introduced. Prerequisite: Elementary Accounting 113A.

Business Administration 123B — Federal Tax Accounting (3-0) This course deals primarily with the current federal income tax

laws. While some attention is given to the economic, social and historic viewpoints, major emphasis is placed on the technical and accounting aspects, including the preparation of income tax returns.

Prerequisite: Instructor's consent.

Business Administration 113B — Introduction to Business (3-0) A general business course designed to give the student an understanding of the fundamental principles of business operation.

Business Administration 113C — Business Correspondence (3-0) A study of grammar, punctuation, sentence structure, paragraphing and composition of business letters.

Business Administration 113D — Business Mathematics (3-0) This course covers the simpler exercises and problems of every-day business calculations—including such topics as the use of aliquot parts, practice on short methods of calculation, fractions, percentage, interest and discount, bonds, depreciation, social security, taxes, property taxes, insurance and stocks.

Business Administration 113M — Office Machines (3-0) A course planned to develop in the student a working knowledge of a variety of adding-listing machines, calculating machines, posting, and bookkeeping machines.

Business Administration 113F-123F — Secretarial Practice (3-0) A course designed for students who are interested in the secretarial field. It covers speed dictation, transcriptions, office ethics, duplicating, office machines, filing and postal information; practice is given in interviewing callers, attending business conferences, and in telephone technique. Typing skill is a prerequisite for this course.

Business Administration 113S-123S — Elementary Shorthand (2-6) Detailed study of principles of Gregg Shorthand by Simplified Functional Method. Special attention is given to word signs, special forms, phrase writing and rapid reading of shorthand. In the second semester emphasis is given to readiness and accuracy in transcription.

Two hours lecture, two hours laboratory, and at least six hours outside work per week is required.

Business Administration 114S-124S—Elementary Shorthand (3-2) (3-7) Detailed study of principles of Gregg Shorthand by Simplified Functional Method. Special attention is given to word signs, special forms, phrase writing, and rapid reading of shorthand.

No credit in shorthand is granted until proper efficiency in typewriting is demonstrated. Students must attain a typing speed of at least sixty words per minute with not more than five errors in order to receive credit in Shorthand 124S.

In the second semester there is continued study and review of the principles of shorthand. Dictation and transcription of new matter with emphasis upon readiness and accuracy in transcription. One year of typewriting is recommended.

Business Administration 113T-123T — Typewriting (1-4) A beginner's course in typewriting. Exercises for the mastery of the keyboard by the touch system, instruction in the care of the machine, study of form and arrangement of simple business letters, and simple centering.

Typewriting problems in addressing envelopes, writing business, letters, tabulation, manuscript writing, and legal document writing.

Business Administration 113E — Personal Finance (3-0) Topics studied include inflation, tax problems, insurance, annuities, credit, home ownership, bank accounts, and investments.

Prerequisite: Instructor's consent.

Business Administration 123 — Secretarial Accounting (3-0) A study of the fundamentals of double-entry bookkeeping and their direct application to various business and professions — insurance, law, service operations, medicine, retail stores, and corporations — including the analysis of accounts and the preparation of accounting statements.

Business Administration 213L — Business Law (3-0) Fundamentals, contracts, agency, negotiable instruments, property, and real estate. General principles involving law or bailments, sales, conditional sales, agency, negotiable instruments as they appear in actual cases illustrating practical business problems.

Business Administration 213R — Real Estate Appraisal Principles and Practices (3-0) Fundamental principles of real estate transfers; emphasizing contracts of sale, deeds, abstracts, leases, options, taxes, liens, financing, and market conditions. Also basic consideration of real property appraisal.

Business Administration 223F — Executive Secretaryship (2-3) A course which analyzes the many diversified responsibilities of an executive secretary as an office supervisor.

This study emphasizes secretarial alertness to office problems, as well as the awareness of modern techniques in office management, case studies of secretarial procedure in the different business organizations, and the application of business ethics and office etiquettes.

This course is primarily designed for those sophomore secretarial students who have credit for college secretarial practice (B. A. 113F and B. A. 123F) and advanced college shorthand (B. A. 214S and B. A. 224S) during the freshman year.

Other students may be admitted with consent of the business faculty.

Business Administration 214S-224S — Advanced Shorthand and Office Procedure (3-7) Continued study and review of the principles of shorthand. Emphasis on speed building and transcription.

In the second semester emphasis is on taking dictation at very high rates of speed. Dictation is given in the legal, medical and other technical fields as well as general office routines.

Business Administration 214-224—Principles of Accounting (3-3) The principles of accounting for a single proprietorship organization. A study of the accounting equation, business transactions, business papers, ledgers, books of original entry, classifications and interpretation of accounts and statements, valuation accounts, accrued and deferred items, and the accounting cycle.

Second Semester—Accounting for partnership and corporate business enterprises. A study of the characteristics of each organization, formation, dissolution, and liquidation.

Business Administration 213F — Business and Industrial Psychology (3-0) The psychological factors operating in business and industry. Employment procedures, personnel testing, attitude analysis, motivation, morals, advertising, and consumer market opinion and motivation research.

Business Administration 213I — Survey of Insurance (3-0) A general introductory course dealing with the theory and practice of insurance and its economic and social significance. A critical examination is made of the various types of life, fire, and automobile contracts available for protection against personal and business risks. In addition a brief study is made of State and Federal insurance plans, suretyship, and other casualty and property coverage.

Business Administration 213N — Salesmanship (3-0) A course dealing with the principles of personal salesmanship, with a study of methods, problems, and routine duties of a salesman.

Business Administration 213T - 223T — Advanced Typewriting Problems (1-4) This course includes business reports, business documents, legal documents, tabulation, statistical material, manuscripts, cutting stencils, various forms of business letters and a continued emphasis upon typing speed and efficiency.

Prerequisite: Business Administration 114T - 124T.

Chemistry

Chemistry 113 — Introductory Chemistry (3-2) Non-technical course which meets the needs of those who do not expect to specialize in science, engineering or medicine. The course content is devoted to a survey of the principles of inorganic chemistry.

Chemistry 123 — Introductory Chemistry (3-2) A continuation of Chemistry 113. Subject matter includes an introduction to the fields of organic and biochemistry. Prerequisite: Chemistry 113.

Note: Chemistry 113-123 cannot be substituted for Chemistry 114-124 in meeting prerequisites in scientific curricula. Chemistry 113-123 and Chemistry 114-124 may not both be counted for credit.

Chemistry 114 — General Chemistry (3-4) A course serving the prerequisite requirement for engineering, medicine, dentistry, and other professional courses requiring advance work in chemistry. Lectures, demonstrations, and laboratory work sufficient for an understanding of fundamental principles. Laboratory work includes introduction to quantitative and volumetric analysis.

Chemistry 124 — General Chemistry (3-4) A continuation of Chemistry 114, requiring study of equilibrium, acid-base concepts, and qualitative analysis. Prerequisite: Chemistry 114.

Chemistry 214 — Organic Chemistry (3-4) An introduction to the chemistry of the compounds of carbon for science majors. The reactions of aliphatic and aromatic compounds are considered in terms of carbonium ion, carbanion and free radical reaction mechanisms. Stereochemistry and molecular conformations are also considered. Laboratory work offers opportunity for the student to familiarize himself with reactions, properties, and relations of typical organic compounds. Prerequisite: Chemistry 124.

Chemistry 224 — Organic Chemistry (3-4) A continuation of Chemistry 214, requiring study of carboxylic and sulfonic acids, amines, ethers and phenols. Carbonyl and polyfunctional compounds are also considered. Prerequisite: Chemistry 214.

Earth and Space Studies

Geology 114 — General Geology (3-3) Physical geology processes modifying the earth's surface; materials and features of the earth's crust. Laboratory work in cartography, mineralogy, and petrology.

Geology 124 — General Geology (3-3) Historical geology; the history of the earth through geologic times as revealed by rocks and fossils; the origin and development of plant and animal life. Laboratory work in paleontology.

Prerequisite: Geology 114.

Astronomy 113 — A Survey of Astronomy (3-0) The main features of the known universe and the principles involved in their discovery. A non-mathematical survey recommended for all students.

Astronomy 123 — A Survey of Astronomy (3-0) A continuation of Astronomy 113.

Meteorology 113 — Meteorology (3-0) The science of Meteorology presented concisely and systematically in its present state of development. The primary purpose is to set forth the facts and principles concerning the behavior and responses of the atmosphere.

Geology 213 — Mineralogy (2-8) Introductory course in the study of minerals, including elements of crystallography; determination of the common minerals by their physical properties.

Prerequisite: Trigonometry, Geology 124, and Chemistry 114.

Geology 223 — Petrology (2-4) Origin, mode of occurrence, and determination of the common types of igneous, sedimentary, and metamorphic rocks.

Prerequisite: Geology 213.

Geology 223A — Invertebrate Paleontology (2-4) Invertebrate, phyla; sponges, coelenterate, echinodermata, brachiopods, mollusks, and arthropods, stratigraphic and evolutionary paleontology.

Prerequisite: Geology 114-124. Two lectures and four laboratory hours a week.

Geography 213 — Economic Geography (3-0) A study of the relationship of man to his environment; problems of production, manufacture, and distribution of goods in the various regions of the world.

Geography 223 — World Geography (3-0) The earth, its climatic regions; the relation of human activities to physical environments; major cultural divisions and selected regions and countries.

Economics

Economics 213 — Principles of Economics (3-0) An examination of fundamental economic concepts and principles.

Prerequisite: Sophomore standing.

Economics 223 — Economic Problems (3-0) A study of contemporary economic issues and problems.

Prerequisite: Sophomore standing.

Education

Education 113 — Introduction to Educational Psychology (3-0) An introductory study of mental life and the psychological principles underlying motivation, behavior, individual differences, and the learning processes.

Education 123 — Introduction to Education (3-0) A brief survey of the general field of education brought out through a study of the evolution of the present-day public school and its practices.

English

English 113D — Developmental Reading (3-3) This course emphasizes the development of basic comprehension skills in reading. It is designed for students who desire increased reading skills. Training is given in overcoming the weaknesses of individual students and in increasing the speed of reading.

English 113 — Composition and Rhetoric (3-0) The development of the student's ability to think for himself and to express his thoughts in correct, clear language. A study of literature in order to encourage reading.

English 123 — Composition and Rhetoric (3-0) Further training in thinking and the ordering of thoughts by the study of the types of composition. Prerequisite: English 113.

English 213 — English Literature (3-0) A survey course using selections from an anthology to emphasize trends in English literature. Advanced composition.

Prerequisite: English 123.

English 223 — English Literature (3-0) The survey of English literature. Advanced composition. Prerequisite: English 123.

English 223B — Technical Report Writing (3-0) Techniques of verbal efficiency in the various media of engineering and scientific communications, with stress on report and research-report preparation, letters and resumes. Required in technological and engineering plans.

English 213N — Great Books (3-0) Greek plays, Roman lives (from Plutarch), Dante's *Inferno*, Shakespeare's *King Lear*, a Russian novel, twenty English poems, a modern novel.

Foreign Language

French 113-123 — Conversational French (3-0) For students who have never studied French. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

French 113A — Readings in French (3-0) Standard elementary grammar with oral and reading exercises. A course to prepare students to read and translate material relating to various sciences.

French 123A — Readings in French (3-0) Translation of material leading to various sciences. Designed to develop technical vocabulary and facilitate in reading scientific material.

French 114 — Beginner's French (3-2) Drill in the pronunciation and the grammar of the French language with written exercises, dictation and conversation in French.

French 124 — Composition and Reading (3-2)

Prerequisite: French 114 or two admission units in French from high school.

French 213-223 — Oral Expression, Reading & Composition (3-0)

Outside readings assigned from French masters. Prerequisite: French 124 or three or four admission units in French from high school.

Spanish 113-123 — Conversational Spanish (3-0) For students who have never studied Spanish. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

Spanish 113A — Readings in Spanish (3-0) Standard elementary grammar with oral and reading exercises. A course to prepare students to read and translate material relating to various sciences.

Spanish 123A — Readings in Spanish (3-0) Translation of material leading to various sciences. Designed to develop technical vocabulary and facilitate in reading scientific material.

Spanish 114 — Beginner's Spanish (3-2) Drill in the pronunciation and the grammar of the Spanish language with written exercises, dictation and conversation in Spanish.

Spanish 124 — Composition and Reading (3-2)

Prerequisite: Spanish 114 or two admission units in Spanish from high school.

Spanish 213-223 — Oral Expression, Reading & Composition (3-0) Outside readings assigned from Spanish masters. Prerequisite: Spanish 124 or three or four admission units in Spanish.

German 113-123 — Conversational German (3-0) For students who have never studied German. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

German 113A — Readings in German (3-0) Standard elementary grammar with oral and reading exercises. Course to prepare students to read and translate material relating to various sciences.

German 123A — Readings in German (3-0) Translation of material leading to various sciences. Designed to develop technical vocabulary and facilitate in reading scientific material.

German 114 — Beginner's German. (3-2) Drill in the pronunciation and the grammar of the German language with written exercises, dictation and conversation in German.

German 124 — Composition and Reading (3-2)

Prerequisite: German 114 or two admission units in German from high school.

German 213-223 — Oral Expression, Reading and Composition (3-0) Outside readings assigned from German masters.

Prerequisite: German 124 or three or four admission units in German.

Government

Government 213 — American Government (3-0) A functional study of the American constitutional governmental system, of the origins, developments and present-day problems of the national government, of the rights, privileges and obligations of citizenship.

Prerequisite: Sophomore standing.

Government 223 — National and State Government (3-0) The nature, organization, and general principles of local government in the United States, with special attention to these forms in Texas; the judicial, executive, and administrative functions in federal and state government; financing governmental activities.

Prerequisite: Sophomore standing.

History

History 113 — History of England (3-0) Survey of the social, economic, political, and intellectual development of Britain from the prehistoric period through the fifteenth century.

History 123 — History of England (3-0) Continuation of History 113. Survey of the social, economic, political, and intellectual development of Britain and the British Empire to the present.

History 113A — Western Civilization in Mediaeval Times (3-0) A survey course in the cultural and institutional development of the nations of western Europe through the sixteenth century.

History 123A — Western Civilization in Modern Times (3-0) Continuation of History 113A. A survey course in the cultural and institutional development of the nations of western Europe from the sixteenth century to the present time.

History 213 — History of the United States (3-0) A general survey of the history of the United States from the era of discovery through the Civil War.

History 223 — History of the United States (3-0) A general survey of the history of the United States from Reconstruction to the present time.

History 223T — Texas History (3-0) A history of Texas from the Spanish period to the present day. Stress is placed upon the period of Anglo-American settlement, the revolution, the republic, and the development of the modern state.

Home Economics

Home Economics 113A — Principles of Food Selection and Preparation (2-4) Fundamental principles in the selection and preparation of foods; nutritive values; cost of foods.

Home Economics 123A — Meal Management (2-4) For majors in Home Economics, hotel or restaurant management. Planning, managing, and serving meals suitable for family groups for all occasions. Selection and use of table appointments.

Home Economics 113B — Costume Design and Selection (2-4) Fundamental principles of design and color applied to the selection and planning of appropriate dress. Emphasis on line, color, and texture in relation to the individual, with laboratory application.

Home Economics 113C — Textiles (2-2) The study of fibers, fabrics, and finishes for application in choices of fabrics for clothing and home furnishings.

Home Economics 123B — Clothing (2-4) Fundamental principles of selection and construction of clothing. Use and alteration of commercial patterns. Problems selected according to the ability and learning experience of the student.

Home Economics 123C — Nutrition (2-2) Fundamental principles of human nutrition applied to the individual, family, and community nutrition problems. Chemistry, physiology and economics of nutrition.

Journalism

Selected Journalism majors have opportunities for professional experience with remuneration through Tyler newspaper and electronic news media.

Journalism 113 — Mass Communications (3-2) An introduction to journalism designed to give the student an understanding

of the media of mass communications in modern society and the career opportunities in the field. Laboratory in print and electronic news writing: Two hours per week.

Journalism 123 — Introduction to Advertising (3-0) The course emphasizes the social and economic benefits as a medium of communication in print or electronic Journalism. Individual projects come from either the print or electronic media.

Journalism 213 — General Reporting (3-2) Instruction and practice in interviewing and writing news stories: discussion of news values, news source, and principles of writing for newspaper, radio, television. Laboratory: two hours per week.

Prerequisites: Thirty hours college credit including at least a C average in freshman English. Credit in high school or college typing or registration in college typing.

Journalism 223 — Editing (3-2) Editing copy for accuracy, objectivity, and readability. Pre-requisite: Journalism 113 or 213.

Mathematics and Engineering

The Mathematics program in Tyler Junior College is especially designed to meet the varying needs, backgrounds and abilities of its students. Courses are arranged to cover the fields of technological applied mathematics, liberal arts, business and engineering.

Colleges and universities no longer allow college algebra and college trigonometry to apply toward a degree in engineering. In order for a student to follow a four year program for a degree in these fields, it is desirable that the student take analytic geometry (Mathematics 123A) and Calculus I (Mathematics 213) the first semester of the freshman year.

It is recommended that all engineering and mathematics majors, except those with an unusually strong background in high school mathematics, take college algebra and trigonometry during the summer prior to the first semester of the freshman year. This should be done to provide an adequate background for analytic geometry and calculus.

In order to help the student register for the appropriate mathematics courses, the following prerequisites have been established:

For Analytical Geometry (Mathematics 123A):

1. Credit in College Algebra (Mathematics 113A) and Trigonometry (Mathematics 113B), or
2. A satisfactory score on the mathematics portion of the ACT examination.

For Calculus I (Mathematics 123):

1. Credit in Analytic Geometry, (Mathematics 123A), or
2. Concurrent registration in Mathematics 123A with grades of B or better in both Mathematics 113A and 113B, or
3. A satisfactory score on the mathematics portion of the ACT examination and concurrent registration in Mathematics 123A.

The following plans tentatively show the courses which mathematics and engineering majors take during the two years at Tyler Junior College. In each case, Plan I is the preferred plan. Each student should see a faculty adviser to get an exact plan that will correlate with the curriculum of the senior college of his choice.

PLAN I (Mathematics Majors)**1st Semester**

Mathematics 123A
 Mathematics 213
 English 113
 History 213
 *Foreign Language 114
 Physical Education

3rd Semester

Mathematics 223B
 English 213
 Government 213
 Foreign Language 213
 *Physics 224A
 Physical Education

2nd Semester

Mathematics 223A
 English 123
 History 223
 Physics 124A
 Foreign Language 124
 Physical Education

4th Semester

Mathematics 223
 English 223
 Government 223
 Foreign Language 223
 *Physics 214A
 Physical Education

* See the catalog of the senior college to which you will transfer.

PLAN II (Mathematics Majors)**1st Semester**

Mathematics 113A
Mathematics 113B
English 113
History 113
*Foreign Language 114
Physical Education

2nd Semester

Mathematics 123A
Mathematics 213
English 123
Physics 124A
Foreign Language 124
Physical Education

3rd Semester

Mathematics 223A
English 213
Government 213
*Science
Foreign Language 213
Physical Education

4th Semester

Mathematics 223 or
Mathematics 223B
History 223
Government 223
*Science
Foreign Language 223
Physical Education

PLAN I (Engineering Majors)**1st Semester**

Mathematics 123A
Mathematics 213
Engineering 112
Chemistry 114
English 113
Physical Education

2nd Semester

Mathematics 223A
*Engineering 213
*Engineering 122
Chemistry 124
English 123
Physical Education

3rd Semester

Mathematics 223B
History 213
Government 213
Physics 224A
English 213
Physical Education

4th Semester

Mathematics 223
History 223
Government 223
Physics 214A
*Engineering 223A
or English 223
Physical Education

PLAN II (Engineering Majors)**1st Semester**

Mathematics 113A
Mathematics 113B
Engineering 112
Chemistry 114
English 113
Physical Education

3rd Semester

Mathematics 223A
*Engineering 213
History 213
Government 213
English 213
Physical Education

* See the catalog of the senior college to which you will transfer.

2nd Semester

Mathematics 123A
Mathematics 213
*Engineering 122
Chemistry 124
English 123
Physical Education

4th Semester

Mathematics 223
History 223
Government 223
Physics 214A
*Engineering 223A
or English 223
Physical Education

Engineering

Engineering 112 — Engineering Drawing (2-2-2) Lettering, free-hand and instrument drawings, shape and size description, pictorial drawings, charts and graphs, line value and lettering to be stressed throughout the course.

Two lectures, two hours of supervised drafting, and two hours of home work per week.

Engineering 122 — Descriptive Geometry (2-2-2) Auxiliary and oblique views, point, line and plane problems. Development, intersection, highway, geology, and mining problems with emphasis on line value and proper lettering throughout the course.

Two lectures, two hours of supervised problems, and two hours of home work per week.

Prerequisite: Engineering Drawing and Solid Geometry or Trigonometry.

Engineering 213 — Engineering Mechanics (3-0) Newton's laws, work-energy and impulse-momentum principles for particles; force resultants, introductory rigid body statics.

Prerequisite: Credit or registration for Mathematics 223A.

Engineering 223A — Engineering Mechanics (3-0) Newton's laws, work-energy, impulse-momentum principles for rigid bodies static and dynamic friction.

Prerequisite: Engineering 213 and Mathematics 223A.

Engineering 223B — Strength of Materials (3-0) Analysis of stress and strain; riveted and welded joints; flexure and deflection of beams, shafts, columns; physical properties of materials.

Prerequisite: Engineering 213 and Mathematics 223A.

* See the catalog of the senior college to which you will transfer.

Mathematics

Mathematics 113 — College Algebra (3-0) A first course in the logical approach to algebra, primarily for liberal arts and business administration majors. This course includes: sets; number system; solution and graphing of first degree equations and inequalities; solution of systems of linear equations and inequalities; polynomials and factoring; quadratic equations and inequalities; relations and functions; exponents; radicals.

(Notice — A grade of C or better must be made to continue in Mathematics.)

Mathematics 113A — College Algebra (3-0) Designed primarily for engineering and mathematics majors, this course includes: sets; number system; exponents; relation and function; inverse functions; logarithms; quadratic functions; polynomials and elementary theory of equations; systems of equations; inequalities; mathematical induction; progressions; binomial theorem.

Mathematics 113B — Trigonometry (3-0) Angular measure; functions of angles; derivation of formulas; identities; solution of triangles; equations; inverse functions; complex numbers.

Prerequisite: Mathematics 113 or registration in Mathematics 113A.

Mathematics 113E — Applied Mathematics I (3-0) Signed numbers; fractions; percentage, slide rule, and basic Algebra. For students in technological programs.

Mathematics 123E — Applied Mathematics II (3-0) Ratio and proportion, logarithms, intermediate Algebra, solution of triangles by use of trigonometry, and vectors. For students in technological programs.

Mathematics 113K — Mathematics for Business Administration I (3-0) A beginning course in topics from finite mathematics, with business applications. This course includes: logic; sets; relations and functions; linear equalities and inequalities; vectors and matrices; linear models; counting - permutations and combinations; and probability.

Mathematics 123K — Mathematics for Business Administration II (3-0) Topics in continuous mathematics, with business applications. This course includes: quadratic, exponential, and logarithmic graphs; sequences, limits, and summation; topics from analytic geometry; topics from calculus; continuity, maxima and minima, simple derivatives and integrals.

Mathematics 113G — Introduction to Modern Mathematics (3-0)

A study of the language and theory of sets; elementary symbolic logic, axiomatic theories; field of real numbers; algebraic structures.

Mathematics 123 — Mathematics of Finance (3-0) Simple and compound interest; equations of value; annuities; amortization and sinking funds; depreciation; bonds.

Prerequisite: Mathematics 113 or 113A.

Mathematics 123A — Analytic Geometry (3-0) Cartesian coordinates; the straight line; the circle, and conic sections; transformation of coordinates; polar coordinates; parametric equations; transcendental and higher plane curves.

Prerequisite: Mathematics 113A, 113B, consent of Mathematics department, or see introductory paragraph, Page 61.

Mathematics 213 — Calculus I (3-0) Variables, functions and limits; differentiation of algebraic functions, with applications; differentials; mean value theorem; integration of algebraic functions, with applications, differentiation of transcendental functions with applications.

Prerequisite: Mathematics 123A, or see introductory paragraph, Page 61.

Mathematics 223A — Calculus II (3-0) Methods of integration, with applications; improper integrals; indeterminate forms; vectors and curvilinear motion.

Prerequisite: Mathematics 213.

Mathematics 223B — Calculus III (3-0) Introduction to series, expansion of functions, hyperbolic functions, analytic geometry of three dimensional space, partial differentiation, multiple integration with applications.

Mathematics 223 — Differential Equations (3-0) Equations of the first order and degree; linear differential equations; operational methods; special types of higher order equations; Laplace transforms; applications of differential equations.

Mathematics 223S — Programming for Statistics (3-0) Instruction in programming the computer for solving various problems encountered in business (Fortran). Univariate analysis, measures of central tendency and scatter; index numbers; and analysis of time series. Materials fee, \$2.00.

Prerequisite: Six hours of College Mathematics.

Music

Courses are offered for three types of students:

1. Those who desire to pursue a professional career in music after completing a standard four-year music curriculum.
2. Those who desire to take individual private lessons in applied music.
3. Those who desire a cultural background in music.

College Credit in Music

Students who receive college credit are required to meet all admission requirements as listed on pages 17-18. Music majors, who have had no previous training in piano, are required, in addition, to pass a proficiency examination in piano.

Students who desire to take non-credit private lessons are not required to meet regular admission requirements.

The amount of credit is dependent upon the amount of laboratory hours per week decided upon at registration as follows:

1. **Preparatory work** in Applied Music is offered for beginning students and for students not sufficiently advanced to meet requirements for music major courses. College level students enrolling in preparatory courses may receive credit as follows:
 - (1) One hour credit; one half-hour lesson, 6 hours practice weekly.
 - (2) Two hours credit; two half-hour lessons, 10 hours practice weekly.
2. **Credit in Strings, Woodwinds, Piano and Brasses.**

One semester hour credit requires six hours laboratory per week.

Two semester hours credit requires ten hours laboratory per week.

Three semester hours credit requires thirteen hours laboratory per week.

Four semester hours credit requires sixteen hours laboratory per week.
3. **Credit in Voice.**

One semester hour credit requires six hours of laboratory per week.

Two semester hours credit requires nine hours of laboratory per week.

Three semester hours credit requires twelve hours of laboratory per week.

Piano

Music 112PP, 122PP, 212PP, 222PP — Preparatory Piano. Elements of piano-forte playing; instruction material and exercises according to individual needs; from simple forms of scales and arpeggios; selected compositions from Bach, Beethoven, Clementi, Handel, Haydn, Kuhlau, Mozart, Schumann and others.

Admission by examination.

Music 114P, 124P — Freshman Piano. Major and minor scales and arpeggios studies from Cramer, Czerny, Bach. Three Part Inventions, French Suites, Mozart; Beethoven sonatas of moderate difficulty; suitable selections from Chopin, other composers of the romantic school.

Admission by examination. Two half-hour lessons and 16 hours minimum practice weekly.

Music 214P, 224P — Sophomore Piano. Major and minor scales and arpeggios in all forms and rhythms; studies from Clementi, Czerny, Phillip, Bach, Well-tempered Clavichord, English Suites; Beethoven sonatas, Op. 2, Op. 10, Op. 26; allegro movement of a concerto; selected compositions from Chopin, Debussy, Mendelssohn, Schubert, etc.

Prerequisite: Completion of Freshman Piano or equivalent. Two half-hour lessons and 16 hours minimum practice weekly.

Music 314P, 324P — Advanced Piano. Major and minor scales in parallel and contrary motion, octaves, tenths, sixths, and double-thirds; all forms of broken chords; Bach Preludes and Fugues; Beethoven Sonatas, suitable concertos and concert repertoire; student required to play half-hour recital.

Prerequisite: Completion of Sophomore Piano or its equivalent. Two half-hour lessons and 18 hours minimum practice.

Strings

Music 112PVc, 122PVc, 212PVc, 222PVc — Preparatory Violoncello. Establishment of position; selected studies from Dotzauer, Grutzmacher, and others; appropriate solos. Admission by examination.

Music 112PBv, 122PBv, 212PBv, 222PBv — Preparatory Bass Viol. Establishment of position; studies from Simandl, Book I; scales and bowing exercises.

Admission by examination.

Music 112 PVi, 122 PVi, 212 PVi, 222 PVi — Preparatory Violin. Principles and establishment of good position; simple scales and arpeggios; exercises from Auer, Kayser, Laoureux, Sevcik, Wohlfhart; suitable selections from Bach, Beethoven, Corelli, Faure, Handel, Mozart, Vivaldi, and others.

Admission by Examination.

Music 114Vi, 124Vi — Freshman Violin

Music 114VA, 124VA — Freshman Viola

Music 114Vc, 124Vc — Freshman Violoncello

Music 114BV, 124BV — Freshman Bass Viol

All form of scales and arpeggios in extended range. Selected study material emphasizing various legato and staccato styles; selected solos from the classic and romantic schools of composition. Admission by examination.

Music 214Vi, 224Vi — Sophomore Violin

Music 214VA, 224VA — Sophomore Viola

Music 214Vc, 224Vc — Sophomore Violoncello

Music 214BV, 224BV — Sophomore Bass Viol

Three and four octave scales and arpeggios in various rhythms; selected advanced study material; suitable solos from classic, romantic and contemporary composers including works in the larger forms; ensemble literature.

Prerequisite: Completion of Freshman strings or its equivalent.

Voice

Music 113Vo, 123Vo — Freshman Voice. Elements of vocal culture—breath control, voice production, pure vowels, consonants; scales and arpeggios; vocalises—Concone, Panofka, Vaccai; the simpler songs in English and Italian.

Admission by examination.

Music 213Vo, 223Vo — Sophomore Voice. Technical development — the sustained tone of the old Italian bel canto, roulades,

runs and trills; the simple opera and oratorio arias of Gluck, Handel, Mozart, Scarlatti; beginnings of German Lied, English and American songs.

Prerequisite: Completion of Freshman Voice or equivalent.

Woodwinds

Music 112C, 122C, 212C, 222C — Preparatory Clarinet. Principles of posture, embouchure, articulation; elementary scales and arpeggios; graded studies and duets; selected simple pieces.

Admission by examination.

Music 114C, 124C — Freshman Clarinet. Etudes by Klose and Lazarus; major and minor scales, solos and duets.

Admission by examination. Two half-hour lessons and 16 hours minimum practice weekly.

Music 214C, 224C — Sophomore Clarinet. Etudes by Langenus, Lazarus, Rose, and Voxman; major and minor scales, orchestral studies; transpositions; solo and ensemble literature.

Prerequisite: Completion of Freshman Clarinet or equivalent. Two half-hour lessons and 16 hours minimum practice weekly.

Music 112S, 122S — Freshman Saxophone. Chromatic scales, all major and minor scales and arpeggios. Studies equivalent to Calliet Method, Book II; Rubank, Selected Studies, Klose-Derigny, Complete Method. Representative Solos.

Prerequisite: Admission by examination. Two half-hour lessons and 10 hours minimum practice weekly.

Music 212S, 222S — Sophomore Saxophone. Chromatic scales, all major and minor scales and arpeggios. Studies equivalent to Ferling, 48 Etudes, Rubank, Selected Studies; Klose-Derigny, Complete Method. Representative Solos.

Prerequisite: Music 122S or the equivalent. Two half-hour lessons and 10 hours minimum practice weekly.

Music Theory

Music 111T, 121T — Elementary Ear Training and Sight Singing (2-0) Rhythmic, melodic, and harmonic dictation in the major and minor modes; sight singing in the treble and bass clefs. Must be taken concurrently with Music 113T, 123T respectively.

Required of music majors.

Music 113T, 123T — Elementary Harmony (3-0) The study of

chord building and chord connection including keyboard harmony; triads and their inversions, cadences, modulations to related keys, simple non-harmonic tones, seventh chords, original part-writing exercises. Must be taken concurrently with Music 111T, 121T respectively.

Prerequisite: Ability to read simple music notation. Required of music majors. Chorus is required of all elementary harmony enrollees.

Music 113L, 123L — Introduction to Music (3-0) A general survey of the development of the art of music designed to provide a basic understanding of the principal periods and styles of music literature; origins, folk music, plainsong, vocal and instrumental forms, elementary acoustics, biographical sketches and bibliography.

No prerequisites; open to non-music majors. Required of music majors.

Music 211T, 221T — Advanced Ear Training and Sight Singing (2-0) Continuation of dictation and sight singing studies, including the C clefs, modulation, and chromatic intervals. Must be taken concurrently with Music 213T, 223T respectively.

Prerequisite: Music 121T. Required of music majors.

Music 213T, 223T — Advanced Harmony (3-2) A further study of harmony and an introduction to counterpoint; the ninth, eleventh and thirteenth chords, chromatically altered chords, modulation to distant keys, the decorative material of harmony; a survey of the five species. Must be taken concurrently with Music 211T, 221T, respectively.

Prerequisite: Music 123T. Required of music majors. Chorus is required of all advanced harmony enrollees.

Musical Organizations

Music 112B, 122B — Band (1-4)

Music 212B, 222B — Band (1-4)

The official Apache Band, open to any student who has had suitable training. Three hours per week.

Music 112Ch, 122Ch — Chorus (1-3)

Music 212Ch, 222Ch — Chorus (1-3)

A chorus in choral singing organized for the purpose of becoming familiar with the more important works of vocal ensemble. Open to students by audition. Three hours per week.

Music 1130, 1230 — Symphony Orchestra**Music 2130, 2230 — Symphony Orchestra**

Open to advanced instrumental students. Members are given practical training in professional orchestral routine in the East Texas Symphony Orchestra.

Admission by audition. Four hours per week.

Nursing

Nursing 112 — Introduction to Nursing (2-0) This course is designed to assist the student in her adjustment to college and to the profession of nursing. It includes: a survey of the historical development of nursing from its conception to the modern times, with special consideration of contemporary movements; a discussion of nursing organizations; career opportunities; and professional relationships with emphasis placed on the qualifications considered essential for effective nursing.

Nursing 122 — Introduction to Nursing (2-0) A continuation of Nursing 112 for the advanced student.

Nursing 133 — Fundamentals of Nursing (2-2) Fundamentals of Nursing is designed to serve as a foundation for nursing practice. Material and experiences are planned to aid the students in developing ideals, attitudes, knowledge and skills which are basic to comprehensive nursing care. The student is given the opportunity to contribute, as a team member, to the planning and the providing for comprehensive care. Identifying patient needs and planning the care of the total patient are stressed. Concepts of mental health and interpersonal relationships are introduced to the student in order for him to gain a better understanding of himself and others. The value of good communication techniques are also emphasized. The student must learn not only how to perform common techniques, but also when to perform them and how to modify them in individual patient-nurse situations.

Nursing 143 — Fundamentals of Nursing (2-2) A continuation of Nursing 133.

Nursing 214A — Medical Nursing I (2-10) This introductory course is designed to assist the student in becoming familiar with medical conditions primarily of the adult patient. The content is arranged according to the theory that learning proceeds from the simple to the complex. Part one includes general information

and trends applicable to most medical patients. The purpose is to assist the student in developing a foundation for succeeding subject material. Part two is divided into units according to the anatomical systems of the body. Specific conditions are presented in relation to diagnostic measures, classical picture, pathology, medical and surgical management, rehabilitation and health teaching, with special emphasis on nursing care of these patients. Concurrent guided clinical experience is provided in the local hospitals.

Nursing 224 — Community Aspects of Nursing (3-0) This course is designed to help the student develop a better understanding of man's behavior and how this relates to illness and health. Emphasis is placed on the community resources and nursing services available to the patient and the principles and methods used to improve health in the community. A concurrent clinical laboratory practice is provided through an observation period at the Tyler-Smith County Health Department and through laboratory experience in the emergency departments of local hospitals.

Nursing 214B — Surgical Nursing I (4-10) This introductory course is designed to assist the student in becoming familiar with surgical conditions primarily of the adult patient. The content is arranged according to the theory that learning proceeds from the simple to the complex. Part one includes general information and trends applicable to most surgical patients. The purpose is to assist the student in developing a foundation for succeeding subject material. Part two is divided into units according to the anatomical system of the body. Specific conditions are presented in relation to diagnostic measures, classical picture, pathology, medical and surgical management, rehabilitation and health teaching, with special emphasis on nursing care of these patients. Concurrent guided clinical experience is provided in the local hospitals.

Nursing 225 — Introduction to Operating Room Nursing (3-10) This course is an introduction to operating room technique, designed to equip the student with that knowledge necessary to be able to function at a student level in the operating room. The student participates in a very vital process relating to surgical nursing and aids the patient in receiving that care necessary to restore his health, whenever possible. A major emphasis is the knowledge and skill necessary to provide safety to the patient while in the operating room. Concurrent laboratory

practice is provided with student rotation through the operating rooms of a community hospital.

Pharmacology

Pharmacology 114 (4-1) This course is designed to help the student develop an understanding of drugs, their administration, uses, effects and side effects. Emphasis is placed on classes of drugs as they are used in the various body systems and the nursing care needed during drug therapy.

This course also assists the student to become proficient in accurately calculating dosages and/or preparing correct solutions for medication administration.

Physical Education

Physical Education 111, 121, 211, 221 — Physical Training for College Men (0-2) Includes such activities as calisthenics, isometrics, karate, football, basketball, volleyball, track, tennis, softball, and other physical fitness activities.

Physical Education 111A, 121A, 211A, 221A — Physical Training for College Women (0-2) Physical activities for women including calisthenics, basketball, volleyball, table tennis, tennis, archery, tap dancing, badminton, etc.

Physical Education 113C — Art of Daily Living (3-0) (Women)

A course designed to place emphasis on the needs and activities of the individual student to assist in making proper adjustments. The fundamental aim is to develop self-assurance through knowledge that one's health, appearance, clothes, styling, make-up, and posture are correct. Students are given personalized instruction with respect to their own problems. By means of lectures, demonstrations, practice, and opportunities to perform in public, an effort is made to develop in the student greater poise and alertness. Instruction includes techniques for balance and control of movement, selection and care of clothing.

Physical Education 123C — Art of Daily Living (3-0) (Women)

A continuation of Physical Education 113C.

Physical Education 113 — Methods (2-2)

The organization and administration of physical education in the public schools. The course of study for physical education as recommended by the Texas State Department of Education for high schools is used as a basis for study. Laboratory periods are devoted to actual problems in the field.

Physical Education 123 — Methods (2-2) A continuation of Physical Education 113 with special attention given to problems in the physical education field.

Physical Education 113A — Theory of Football and Track (3-0)

Physical Education 123A — Theory of Basketball and Baseball (3-0)

Physical Education 213 — Health and Hygiene (3-0) A study of personal and community health. A study is made of causative factors of diseases, their means of transmission and prevention.

Physical Education 223 — Sports Understanding (3-0) This course is especially designed for those who wish to develop a complete understanding of sports both major and minor. Rules, terminology, and finesse are studied.

Physical Education 213C — Appreciation of Dance (3-2) (Women) Basic fundamentals and interpretations of dance; the principles and applications applied to the interpretation of modern and conventional dance.

Physical Education 223C — Appreciation of Dance (3-2) (Women) A continuation of Physical Education 213C.

Physics

Students majoring in physics are encouraged to take Mathematics 113A and Mathematics 113B in summer school so that they may enroll in Mathematics 213 in the Fall semester thereby eliminating the need for concurrent enrollment in Mathematics 213 and Physics 124A in the Spring semester. Students with a strong background in mathematics may be able to omit these courses (see the section on Mathematics and Engineering in this catalogue).

Physics 113 — Physics Problems (3-0) The use of the slide rule, preparation and interpretation of graphical data. Problems from physics and engineering are used as exercises. Required of students in Electronics, Drafting, and Petroleum Technology.

Physics 114B — General Physics (3-3) A course for premedical students, majors in pharmacy and architecture, and other students who need a two-semester technical course in physics but who do not intend to take additional courses in physics.

Mechanics, heat, and sound.

Physics 124B — General Physics (3-3) A continuation of Physics 114B.

Electricity and magnetism, Light, atomic and nuclear physics.

Prerequisite: Physics 114B

Physics 124A — Mechanics (3-3) A course for students who intend to major in physics, chemistry, or mathematics.

Prerequisite: Credit or registration in Mathematics 213.

Physics 214A* — Advanced Physics (3-3) Heat, Wave-motion, and optics.

Prerequisite: Physics 124A, or Engineering 213, and credit or registration for Mathematics 223A.

Physics 224A* — Advanced Physics (3-3) Electricity and magnetism.

Prerequisite: Physics 124A or Engineering 213 and credit or registration for Mathematics 223A.

Psychology

Psychology 111 — Freshman Orientation. Freshman Orientation is a course designed to help students bridge the gap between high school and college. Library usage, study habits, good attitudes, and budgeting of time are taught. The interpretation of standardized tests and vocational counseling are included in the course. Required of all beginning students unless excused by the Academic Vice President.

Psychology 113A — Psychology of Learning (3-0) Fundamental mental and psychological principles underlying motivation, behavior, individual difference, and the learning processes.

The student may not count both Education 113 and Psychology 113A for credit.

Psychology 111A — Psychology of Learning (1-0) This is the first one-third of Psychology 113A offered on a one semester hour basis in the evening college.

Psychology 111B — Psychology of Learning (1-0) This is the second one-third of Psychology 113A offered on a one semester hour basis in the evening college.

* Physics 214A - 224A are designed to meet the second year physics requirements of students in engineering, chemistry or mathematics.

Psychology 111C — Psychology of Learning (1-0) This is the final one-third of Psychology 113A offered on a one semester hour basis in the evening college.

Psychology 213 — Introductory Psychology (3-0) A study of the basic principles of psychology, bearing on individual differences, intelligence, the development of personality, growth, motivation, drives, emotions and learning.

Prerequisite: Sophomore standing.

Psychology 223 — Applied Psychology (3-0) This course deals with the application of psychological facts and principles to problems and activities of life and work.

Psychology 223A — Child Growth and Development (3-0) How children grow and develop, the stages in the process, and the factors which influence growth and development are considered.

Sociology and Anthropology

Sociology 211A — Introduction to Sociology (1-0) This is the first one-third of Sociology 213 offered on a one semester hour basis in the evening college.

Sociology 211B — Introduction to Sociology (1-0) This is the second one-third of Sociology 213 offered on a one semester hour basis in the evening college.

Sociology 211C — Introduction to Sociology (1-0) This is the final one-third of Sociology 213 offered on a one semester hour basis in the evening college.

Sociology 213 — Introduction to Sociology (3-0) Introduction to the study of society. The community and its structure; the ecological approach to human relationships; elements and processes of social interaction; social change; society and the person.

Prerequisite: Sophomore standing.

Sociology 223 — Social Problems (3-0) The study and analysis of the major social problems of modern society.

Prerequisite: Sophomore standing.

Anthropology 213 — Social Anthropology (3-0) A consideration of various forms of social institutions, such as the family, clan, kin groups, community, sodalities, religion, and government, found over the world and exemplified by such people as the Apache and Hopi Indians, Australians, Samoans and Hottentots. Various schools of Social Anthropology theory are summarized.

Anthropology 213A — Introduction to Anthropology (3-0) Principles of physical and cultural anthropology; analysis of the cultures of prehistoric and existing preliterate people; impact of modern western culture on preliterate societies.

Anthropology 211A — Introduction to Anthropology (1-0) This is the first one-third of Anthropology 213A offered on a one semester hour basis.

Anthropology 211B — Introduction to Anthropology (1-0) This is the second one-third of Anthropology 213A.

Anthropology 211C — Introduction to Anthropology (1-0) This is the final one-third of Anthropology 213A.

Anthropology 223 — Cultural Anthropology (3-0) A comparative study of culture and social organization among primitive or preliterate societies. Emphasis upon marriage, property, religion, magic and tribal control. Attention is also given to the significance of the study of primitive cultures for an understanding of urban industrial civilizations.

Speech and Drama

Speech 111 — Parliamentary Procedure (1-0) A course covering correct procedure in the forming of an organization and how to conduct meetings properly.

Speech 113 — Public Speaking (3-0) Practice in platform delivery; planning, organizing and delivering general platform speeches. Principles and types of speeches involved in the areas of platform speaking, rhetoric and public address. Speech 113 and Speech 223A cannot both be counted for credit.

Speech 113A — Fundamentals of Speech (3-0) Fundamental principles of voice development, variety in expression and interpretation; use of visual action in oral communication; planning, organizing and delivering general platform speeches and readings.

Speech 123A — Oral Interpretation (3-0) Analysis of thought; development of imagination; oral presentation of literary forms; individual problems in interpretative reading. Prerequisite: 113A or consent of the instructor.

Speech 123B — Fundamentals of Acting (2-2) Theory and practice in bodily control, voice, pantomime, interpretation, characterization, and stage technique. Analysis and study of specific

roles, principles of group movement, varied projects in group acting, application of principles in departmental productions.

Prerequisite: Speech 113A. Offered in even numbered years.

Speech 123C — Basic Theatre Practice (3-2) Study and practice in the visual arts of the theatre. Includes an introduction to the following: stagecraft, scene design, lighting, costume design and makeup. Three (3) hours lecture per week, and two (2) hours laboratory per week. Additional work on technical crews to provide practical experience.

Speech 123D — Introduction to Radio and Television Communication (2-4) A study of the principles of radio and television speaking, including the preparation of commercials, news and program continuity. History, development and regulation of the broadcasting industry as a mass medium and social force. Practical experience in performance on the college radio station. Two lectures and four laboratory hours per week.

Prerequisite: Speech 113A or consent of instructor. Offered in odd numbered years.

Speech 223A — Business and Professional Speaking (3-0) Special types and techniques of speeches most common to business and professional people; theory and practice in business speech situations, personal conferences, oral reports, sales talks and occasional speeches.

Prerequisite: Sophomore standing, except by permission of the Academic Vice-President.

Speech 113 and Speech 223A cannot both be counted for credit.

Speech 213A — Survey of the Theatre (3-2) An introductory study of the history, art and aesthetics of drama, including an elementary consideration of plays and playwriting; the techniques and styles of acting and directing; present day production techniques and theaters.

Distributive Education

In accordance with its stated objectives, Tyler Junior College co-operates with business and industrial concerns of the area by providing special personnel training programs. Specialized non-credit courses in Distributive Education are organized whenever there is a request by a sufficient number of persons for such a class.

The courses are taught in either the regular day session or in the Evening Division to suit the needs of the students.

THE TECHNICAL AND INDUSTRIAL DEPARTMENT

Tyler Junior College technical courses are pre-employment training courses which fit the student into the technical, trade and industrial world.

The program is divided into Technical Institute courses, and Trade Extension classes.

Day Courses. Courses offered in the day division, technical in nature, are on the college level and are operated on the semester hour plan. These courses are one or two years in length and are divided into semesters. Upon completion of appropriate units, the student is given credit in terms of semester hours. In cases where the letter T appears in connection with credit given the symbol indicates it to be for work technical in nature.

Admission to day technological courses is based upon graduation from an accredited high school or upon satisfactory completion of an entrance examination.

Trade Extension Classes. Tyler Junior College, in cooperation with the Texas Education Agency, offers "trade extension" classes. Instruction is given to trade and industrial workers in courses that are designed to teach the workers more about their jobs, and thereby increase their productivity and assure more opportunities for advancement.

Any worker may enter a trade extension class if the instruction given is such as will help him in his daily work or fit him for promotion to a better job in the same occupation.

All workers are eligible for trade extension classes who are over sixteen years of age and who are employed in those trades or industrial pursuit for which supplementary instruction can be given.

Tuition. Technical Department Tuition.

Tyler Junior College District Residents, \$60.00 per semester for a whole or part of a program.

Texas non-district residents, \$90.00 per semester for a whole or part of a program.

Non-residents of Texas, \$200.00 per semester for a whole or part of a program.

The Electronic Data Processing Program has a \$15.00 per semester rental fee in addition to the tuition.

Aeronautics

Career Pilot Technology

First Year — First Semester

Psychology 111 — Freshman Orientation
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics
Aeronautics 113 — Flight Theory I
Aeronautics 113A — Aerophysics
Aeronautics 113B — Basic Flight
Physical Education 111 — Physical Training

First Year — Second Semester

English 123 — Composition and Rhetoric
History 213 — United States
Aeronautics 123 — Flight Theory I
Aeronautics 123A — Aerodynamics
Aeronautics 123B — Flight - Intermediate I
Meteorology 113 — Meteorology
Physical Education 121 — Physical Training

Summer School — First Term

History 223 — United States
Mathematics 113 — College Algebra

Summer School — Second Term

Government 213 — American Government
Mathematics 113B — Trigonometry

Second Year — First Semester

English 213 — English Literature
Government 223 — National and State Government
Aeronautics 213 — Flight Theory II
Aeronautics 213A — Radio Aids & Communication
Aeronautics 213B — Flight - Intermediate II
Aeronautics 213C — Propulsion Systems

Second Year — Second Semester

English 223 — English Literature
Psychology 223 — Applied Psychology
Aeronautics 223 — Instrument Theory
Aeronautics 223A — Flight - Advanced I
Elective — (Three semester hours)
Elective — Flight - Advanced II

Description of Courses

Aeronautics 113 — Flight Theory I (3-0) The principles of flight, basis of air traffic control, weather facts, navigational procedure and airplane operation as are pertinent for the Private Pilot; upon successful completion of this course, the student has sufficient knowledge to pass the Federal Aviation Agency written examination for the Private Pilot Certificate, which constitutes the final examination.

Aeronautics 113A — Aerophysics (3-0) An introduction to physics, physical terms, the basis for physical laws in practical aeronautics. Course of study includes laws of motion, gas laws, electromagnetism, basic principles of electrical circuits, hydraulics and pneumatics.

Aeronautics 113B — Basic Flight (Private Pilot) (1-3) An introduction to flight through actual flying experience in modern, safe, fully equipped airplanes. A total of 71 hours of instruction is provided, including 25 hours of dual flight, 25 hours of solo flight and 21 hours of oral instruction, pre-flight instruction and briefing. This course is designed for the completion of the Private Pilot Certificate; it exceeds the minimum flight hours necessary to satisfy the Federal Aviation Agency requirements. The student should also enroll in Aeronautics 113, Flight Theory, which is the private Pilot Ground School, or show evidence of having successfully passed the Federal Aviation Agency written examination for the Private Pilot Certificate.

Aeronautics 123 — Flight Theory I (2-0) The basic elements of air navigation; the fundamentals and practical application of pilotage and dead reckoning, including the use of the plotter, computer, aerial charts and Federal Aviation Agency publications pertinent to flying.

Aeronautics 123A — Aerodynamics (3-0) Analysis of the physics of flight including the application of basic aerodynamics to the wing and airfoil and the analysis of lift and drag components relative to the wing planform and airplane performance. The application of aerodynamic effect of turbo jet engines involving the principles of propulsion.

Aeronautics 123B — Flight - Intermediate I (Commercial Pilot) This course is the first half of two phases of flight training in preparation for the Federal Aviation Agency Commercial Pilot Certificate. A total of 75 hours of instruction is provided, in-

cluding 15 hours of dual flight, 40 hours of solo flight and 20 hours of oral instruction and briefing.

Aeronautics 213 — General Aviation Safety (3-0) A study of the fundamentals essential to safe flight; the instruments used and the evaluation and interpretation of their indications. Weight and Balance problems are given consideration, as are the Federal Aviation Agency Regulations pertaining to safe flight.

Aeronautics 213A — Radio Aids and Communication (3-0) Basic radio fundamentals as are used by the pilot. A description and practical use of various radio aids to safe aerial navigation, including Very High Frequency Omni Range (VOR), Instrument Landing System (ILS), Direction Finding (DF), and others. Charts and approach plates as adapted to radio navigation, including the use of the Flight Information Manual and the Airman's Guide.

Aeronautics 213B — Flight - Intermediate II (Commercial Pilot) (1-3) A continuation of Aeronautics 123B. The second half of two phases of flight training leading to the successful completion of the Federal Aviation Agency Commercial Pilot Certificate. A total of 75 hours of instruction is provided, including 15 hours of dual flight, 40 hours of solo flight and 20 hours of oral instruction and briefing.

Aeronautics 213C — Propulsion Systems (3-0) Principles of operation and construction features of various types of aircraft engines: Reciprocating (in-line, opposed, and radial), compound turboprop, turbojet, and turbofan. Consideration is also given to thermal, mechanical and volumetric efficiencies; superchargers; engine accessories; controls and instrumentation.

Aeronautics 223 — Instrument Theory II (3-0) A study of Air Traffic Control Instrument Procedures and enroute instrument charts — approach plates, together with Federal Air Regulations pertaining to flight operation under instrument conditions. Successful completion of this course should prepare student to pass Federal Aviation Agency written test on instrument theory.

Aeronautics 223A — Flight Advanced I (Instrument Pilot) (2-2) The necessary instruction to qualify for the Federal Aviation Agency Instrument Pilot Rating. A total of 60 hours of instruction is provided, including 30 hours of dual flight, 10 hours of synthetic flight and 20 hours of oral instruction and briefing.

Aeronautics 223B — Flight Advanced II (Multi-Engine Pilot) (0-3)

This course of flight training leads to the Federal Aviation Agency Multi-Engine Pilot Rating. All flying is given in modern twin-engine aircraft and is designed to give the advanced pilot a greater depth of aircraft experience. A total of 20 hours of instruction is provided, including 10 hours of dual flight and 10 hours of oral instruction and briefing.

Drafting

First Year — First Semester

Drafting 113A — Engineering Drawing
Drafting 113B — Freehand Drawing
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States
Psychology 111
Physical Education 111

First Year — Second Semester

Drafting 213D — Descriptive Geometry
Drafting 123B — Mechanical Drawing
English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States
Physical Education 121

Second Year — First Semester

Drafting 213A — Machine Drawing
Drafting 123A — Architectural Drawing
Government 213 — American Government
Mathematics 113B — Trigonometry *
Physics 113 — Elementary Physics

Second Year — Second Semester

Drafting 223B — Map Drafting
Drafting 223C — Plane Surveying
Government 223 — American Government
Speech 223A — Business and Professional Speaking
Electronics 113 — Basic Electronics

* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Description of Courses

Drafting 111 — Blueprint Reading (1-0) Interpretation of blueprints with emphasis on the obtaining of information from mechanical and electronic blueprints for Petroleum Technology majors.

Drafting 113A — Engineering Drawing (2-4) A course designed to cover the basic requirements for an engineering degree with extra emphasis put on drafting skills. The material covered includes lettering, instruments and their use, applied geometry, orthographic freehand and instrument drawings, auxiliary views, sections and conventions, pictorial drawings, dimensions and notes, threads and fasteners, working drawings, charts, graphs and diagrams. Term project — a set of working drawings of a piece of equipment having three or more parts.

Drafting 113B — Freehand Drawing (2-4) A course designed for the draftsman to develop the skill to do good orthographic and pictorial freehand drawings. Air brush techniques are included. Several types of pictorial drawings will be studied and practiced, such as Axonometric, (Trimetric, Diametric, Isometric), Oblique (Cavalier, Cabinet, and projection) Perspective (1, 2, and 3 point perspective and the measuring point method). Pictorial sectional and exploded drawings will be stressed along with product illustration.

Drafting 123A — Architectural Drawing (2-4) A course in home planning with emphasis on details. A complete set of plans for a one-story home is required with Specification Requirements.

Drafting 123B — Mechanical Drawing (2-4) A second course in mechanical drawing. Further study into fundamentals, such as intersections, development, keys, rivets and springs, gears and cams. Added emphasis is given the appendix as applied to making industrial drawings to acquaint the student with the industrial practices in making details, assemblies and isometric drawings.

Drafting 213A — Machine Drawing (2-4) Machine drafting, including details and assemblies of machine parts, jigs and fixtures, with emphasis on the use of American Standards. Templates and industrial drafting equipment. Additional time is spent on drafting in the welding, structural, and piping fields.

Drafting 213D — Descriptive Geometry (2-4) A course involving the principles and application of orthographic projection; space relations of points, lines, and surfaces; the true length of lines in space; space surfaces and intersections and developments; intersections of curved surfaces, cylinders, cones, and spheres; highway, geology and mining problems.

Drafting 213P — Piping Drafting (2-2) Piping diagrams, fabrication details.

Drafting 223B — Map Drafting (2-4) Map Drafting emphasizing lettering, symbols, scales, lease maps, township maps, highway maps and computations, pipe lines, mapping by coordinates and from surveying notes. Most of the work is in ink, using paper, linen and some of the plastics. Same work is done in topography and aerial maps using Edgar Tobin's "Maps for the Oil Industry" as a text. Includes field problems with practical application of surveying instruments. Use of the planimeter, calculator, slide rule and computer calculations.

Drafting 223A — Manufacturing Design, Materials and Processing (2-4) This course is designed to include the theory of design, the study of the properties of metals, plastic, and the manufacturing and processing of articles by casting, forming, and machining. A part of the course includes cost analysis covering manufactured articles as well as the building industry.

Drafting 223C — Plane Surveying (2-4) The use and care of surveying instruments, plane surveys with Transit, and tape, profiles and topography with level, computing cross sections, mapping from notes and computations, using coordinates, and map making with the plane table.

Electronics

All Electronics courses are taught on the college level. The letter T before the credit hours on the student's grade report merely indicates that the course is technical in nature.

First Year — First Semester

Electronics 113 — DC and AC Theory and Circuits
Electronics 113A — Power Distribution
Electronics 113L — Basic Electricity Laboratory
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States
Psychology 111
Physical Education 111

First Year — Second Semester

Electronics 123A — Automatic Controls
Electronics 123 — Industrial Electronics
Electronics 123L — Basic Electronics Laboratory
English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States
Physical Education 121

Second Year — First Semester

Electronics 213 — Vacuum Tubes and Semi-Conductors
Electronics 213L — Industrial Electronic Laboratory
Engineering 112 — Engineering Drawing
Physics 113 — Elementary Physics
Government 213 — American Government

Second Year — Second Semester

Electronics 223 — Industrial Instrumentation Fundamentals
Electronics 223L — Industrial Instrumentation Laboratory
Mathematics 113B — Trigonometry *
Speech 223A — Business and Professional Speaking
Government 223 — National and State Government

* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Description of Courses

Electronics 113 — DC and AC Theory and Circuits (3-0) A basic course in direct and alternating current. AC and DC circuit parameters, Ohm's law, Kirchhoff's law, magnetism, vector algebra, circuit laws and theorems, reactive components, three phase circuit characteristics, power measurement, resonance, and filters.

Electronics 113A — Power Distribution (3-0) A course in power distribution, generating and transmission systems, load center distribution, substation operation, system and line protection fault detectors, and electric utility practices.

Electronics 113L — Basic Electricity Laboratory (0-6) The laboratory consists of tests and measurements of electrical circuits at low and medium frequency. Familiarization of component parts. Voltage and current measurement. Construction and testing of M derived and Constant K filters. Tuned resonant circuits, Measurement of power in AC and DC circuits. Operation of motors and generators, Resistive and reactive networks. Potential transformers, and current transformers.

Electronics 123 — Industrial Electronics (3-0) A thorough study of vacuum tube circuits. Power amplifiers, voltage amplifiers, audio and radio-frequency amplifiers. Compensating networks, gain problems and high and low frequency response. Detection of Radio and Picture carrier signals. Design problems for audio and video amplifiers. Intermediate frequency amplifier and noise reduction circuits.

Electronics 123A — Automatic Controls (3-0) A study of automatic controls and control systems. Time delay relays and switches, power switches, magnetic switches, meters, and application of these devices to control systems. Operation and control of motors, generators, alternators, servomechanisms and other positioning devices.

Electronics 123 B—Electrical Instruments and Measurements (3-0) The mechanics and the science of electrical measurements are given thorough treatment in the course. Starting with basic indicating instruments and continuing through complex integrating devices, both the operating principles and the "hardware" are studied. Range extending devices, rectifiers, bridges, and trans-

* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

formers are used in the laboratory to construct metering systems for typical job requirements. Operation, repair and calibration of measuring instruments. Mathematical analysis is used throughout the course with extensive use of vector algebra and trigonometry.

Pre-requisite: Electronics 113

Electronics 123 C — Electrical Power Systems (3-0) A study of the design, operation and technical details of modern power distribution systems including generating equipment, transmission lines, plant distribution, and protection devices. System load analysis, rates, and power economics are studied.

Pre-requisite: Electronics 113

Electronics 123 D — Electrical Installation Planning (3-0) Methods and materials used in electrical installations and problems encountered in electrical construction work. Wiring materials including those in the National Electric Code.

Pre-requisite: Electronics 113

Electronics 123 E — Operating Problem Analysis (3-0) A study is made of the proper procedures to be used in testing for troubles of electrical systems and their correction. The methods used in setting up and supervising a program of preventive maintenance, trouble-shooting, equipment receiving, data recording, and cost accounting are also studied.

Pre-requisite: Electronics 113

Electronics 123L — Basic Electronics Laboratory (0-6) Tests and measurements of standard, triode, and pentode amplifier circuits. Voltage gain and power gain measurements. Impedance matching, Coupling circuits. Application of amplifier to control devices. Construction of photoelectric amplifier and counters.

Electronics 213 — Vacuum Tubes and Semiconductors (3-0) A review of vacuum tube circuit problems, an introduction to solid state theory through a study of semiconductor diode, transistors, silicon controlled rectifiers, unijunction field effect transistors, tunnel diodes, photo diodes, and circuit problems.

Electronics 213L — Industrial Electronics Laboratory (0-6) The laboratory covers the design and construction of resistance coupled and transformer coupled amplifiers. Experiments with square wave and pulse oscillators. Transistor and vacuum tube amplifiers, and oscillator circuits. Circuit tracing techniques. Use of the oscilloscope in analyzing wave form and pulse voltages.

Electronics 223 — Industrial Instrumentation Fundamentals (3-0)

Instrument application. Energy and force systems, heat transfer. Electrical and mechanical transducers, liquid and gas flow measurements, liquid level measurements, temperature measurements. Potentiometric devices, indicating and registering equipment, humidity measurements, specific gravity, measurements with radio isotopes, ph measurements, telemetering.

Electronics 223L — Industrial Instrumentation Laboratory (0-6)

Construction and testing of simple control systems. Automatic motor controls, automatic timers, photo-electric systems. Radio control systems, ton signaling, servo and synchro systems. Computer circuits.

Electronic Data Processing

The College offers one and two year data processing programs.

The nine months program fits the student to qualify for employment in the field of automatic data processing. The curriculum centers around the operation and control of data processing machines, including control panel wiring and programming of machines other than the electronic digital computer.

A certificate of proficiency is granted upon successful completion of the course.

The two year program leads to the Diploma-in-Business Administration and emphasizes mastery of the electronic digital computer.

A \$15.00 per semester rental fee is charged in this program.

One-Year Program

First Semester

English 113 — Composition and Rhetoric

Business Administration 113B — Introduction to Business

Business Administration 113A — Accounting

Electronic Data Processing 113

Mathematics 113 — College Algebra or Business Administration 113D — Business Mathematics

Physical Education 111 — Physical Training

Psychology 111

Second Semester

English 223B — Technical Report Writing
Business Administration 123A — Accounting
Electronic Data Processing 123
Business Administration 113M — Office Machines
Speech 113A — Fundamentals of Speech
Physical Education 121 — Physical Training

Diploma in Business Administration Plan**First Year — First Semester**

English 113 — Composition and Rhetoric
Business Administration 113B — Introduction to Business
Business Administration 113A — Accounting
Electronic Data Processing 113
Business Administration 113T — Typewriting or Elective
Physical Education 111 — Physical Training
Psychology 111

First Year — Second Semester

English 223B — Technical Report Writing
Mathematics 113 — College Algebra or Business Administration 113D — Business Mathematics
Business Administration 123A — Accounting
Electronic Data Processing 123
Business Administration 123T — Typewriting or Elective
Physical Education 121

Second Year — First Semester

Electronic Data Processing 213 — Computer
Economics 213 — Principles of Economics
History 213 — American History
Government 213 — American Government
Business Administration 113M — Office Machines

Second Year — Second Semester

Electronic Data Processing 223 — Computer
History 223 — American History
Economics 223 — Economic Problems
Government 223 — National and State Government
Speech 223A — Business and Professional Speaking

Description of Courses

All Electronic Data Processing courses are taught on the college level. The letter T before the credit hours on the student's grade report indicates that the course is technical in nature.

Electronic Data Processing 113 — Electronic Data Processing (3-3)

An over-all survey of the function of IBM Unit Record equipment to include 024, 082, 085. Control panel wiring is included in this course. Rental Fee \$15.00.

Electronic Data Processing 123 — Introduction to the Computer (3-3)

An introduction to computer concepts basic to all computer systems. Console operation of the NCR Century 100 and elementary programming techniques using the Neat-3 and RPG Languages. Rental fee \$15.00.

Prerequisite: Electronic Data Processing 113 or consent of the instructor.

Electronic Data Processing 123A — Introduction to Computer (3-0)

An introduction to computer concepts basic to all computer systems, such as magnetic storage, number systems, internal operation, information retrieval.

Electronic Data Processing 211 — Computer Language (1-0)

An introduction to programming to familiarize the student with computer approaches to solving mathematical and business problems. Emphasis on solution of problems through use of Fortran Language.

Electronic Data Processing 213 — Computer (3-3)

A study of the basic programming techniques and actual program writing for the NCR Century 100 and IBM 360 computer systems. R.P.G. and Fortran languages are studied. Rental fee \$15.00.

Prerequisite: E.D.P. 123 or consent of the instructor.

Electronic Data Processing 213A — Systems and Procedures (3-0)

Systems fundamentals, machine indoctrination, and essential operations are presented with the view of operating in our conversion to an EDP environment.

Prerequisite: Accounting 224 or consent of the instructor.

Electronic Data Processing 223 — Computer (3-3)

A study of programming techniques using Cobol and R. P. G. languages. Sophisticated program writing for the NCR Century 100 computer systems. Rental fee \$15.00.

Prerequisite E.D.P. 213 or consent of the instructor.

Electronic Data Processing 223A — Systems and Procedures (3-0)

A continuation of EDP 213A, covering specialized techniques allied with integrated data processing and data processing applications for accounting systems.

Prerequisite: EDP 213A or consent of the instructor.

Law Enforcement Technology

First Year — First Semester

English 113 — Composition and Rhetoric
History 213 — History of the United States
Mathematics 113E — Applied Mathematics
Law Enforcement 113 — Introduction to Law Enforcement
Law Enforcement 113A — Police Administration
Psychology 111 — Freshman Orientation
Physical Education 111 — Physical Training

First Year — Second Semester

History 223 — History of the United States
English 223B — Technical Report Writing
Speech 223A — Business and Professional Speaking
Law Enforcement 123 — Juvenile Procedures
Law Enforcement 123A — Patrol Operation
Physical Education 121 — Physical Training

Second Year — First Semester

Psychology 213 — Introduction to Psychology
Government 213 — American Government
Sociology 213 — Introduction to Sociology
Law Enforcement 213 — Criminal Law
Law Enforcement 213A — Criminal Evidence and Investigation
Physical Education 211 — Physical Training

Second Year — Second Semester

Government 223 — American Government
Physics 113 — Physics Problems
Sociology 223 — Social Problems
Law Enforcement 223 — Traffic Management and Planning
Law Enforcement 223A — Police Administration II
Physical Education 221 — Physical Training

Description of Courses

Law Enforcement 113 — Introduction to Law Enforcement (3-0)

The philosophy and history of law enforcement is studied. It includes a survey of police problems and crimes. Organization and jurisdiction of local, state and federal enforcement agencies and a survey of professional qualifications and opportunities.

Law Enforcement 113A — Police Administration I (3-0) The principles of organization, administration and functioning of police departments are studied. This includes personnel policies, operating division policies and command of the department as a whole.

Law Enforcement 123 — Juvenile Procedures (3-0) Juvenile criminal behavior will be studied to provide an insight into casual factors, precipitating forces, and opportunities for the commission of criminal or delinquent acts. The techniques, responsibilities, and capabilities of police organization in the area of delinquency prevention will be developed.

Law Enforcement 123A — Patrol Operations (3-0) The principles of organization, administration and the functioning of police patrols are studied. This includes responsibilities, techniques, problems and methods of operations and supervision.

Law Enforcement 213 — Criminal Law (3-0) This course covers a brief history and philosophy of modern law which includes the structures, definition and application of commonly used Penal Statutes and leading case laws. It also includes a review of the elements of crimes, laws of arrest, search and seizure.

Law Enforcement 213A — Criminal Evidence and Investigation (3-0) Theories and concepts of the investigator's role in modern criminal investigation are studied. Basic skills necessary in conducting an investigation, developing sources of information, the collection and preservation of evidence and preparation of reports are developed. The student examines the rules governing the admissibility of evidence as they affect the law enforcement officer in the administration of criminal justice. Rules of evidence, kinds and degrees of evidence are studied.

Law Enforcement 223 — Traffic Management and Planning (3-0) The student examines police responsibilities in traffic planning and investigation. Identifies police policies and procedures in

education, engineering, and enforcement responsibilities. An analytical study of special traffic problems, motor vehicle laws and accident investigation techniques is conducted.

Law Enforcement 223A — Police Administration II (3-0) Fundamentals of supervisory techniques and practices in modern organizations are covered. The human element in individual and group relationships is stressed. Police Supervision includes a review of personnel processes in law enforcement agencies and principles of teaching and conference leadership.

Petroleum Technology

Petroleum Technology. The petroleum technology curriculum is established with the advice and co-operation of employers and workers in the oil fields to provide preliminary training for workers in various aspects of petroleum development and production. The oil industry requires employees with training in locating, drilling and maintaining wells, and in handling and refining petroleum products.

While scientific background and related information is included in the technology course, major emphasis is upon operation in the oil field, with opportunity for field trips and for employment.

Petroleum technology majors have available training in four broad areas: exploration, development, marketing, and construction and maintenance. The two-year program listed below is the pattern suggested for students who plan to enter the petroleum industry in the field of exploration and development.

First Year — First Semester

Petroleum Technology 113 — Petroleum Development
Petroleum Technology 112A — Rotary Drilling Fluids
Petroleum Technology 112B — Drilling Equipment Field Lab
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States
Psychology 111
Physical Education 111

First Year — Second Semester

Petroleum Technology 121 — Oil Field Records
Petroleum Technology 123 — Production Methods
Drafting 111 — Blueprint Reading
Petroleum Technology 122A — Production Equipment Field Lab
English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States
Physical Education 121

Second Year — First Semester

Petroleum Technology 213 — Introduction to Petroleum Industry
Petroleum Technology 212A — Well Logging Methods
Petroleum Technology 213A — Petroleum Laboratory Methods
Mathematics 113B — Trigonometry *
Electronics 113 — Basic Electronics
Government 213 — American Government

Second Year — Second Semester

Petroleum Technology 222 — Geophysical Methods
Petroleum Technology 222B — Planetable Surveying for Geophysics
Petroleum Technology 222A — Natural Gas Production
Petroleum Technology 222C — Hydraulics for Petroleum Technologists
Physics 113 — Elementary Physics
Drafting 223B — Map Drafting
Government 223 — American Government

* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Description of Courses

Petroleum Technology 113 — Petroleum Development (3-0)

Exploration methods, principles of oil field development, spacing of wells, rotary and cable tool drilling methods, drilling fluids, directional drilling, oil field hydrology, well completion practices.

Petroleum Technology 112A — Rotary Drilling Fluids (1-3)

Testing methods, determining drilling fluid characteristics, drilling fluid problems, use of special drilling fluids, laboratory exercises consisting of practice in altering the properties of fresh water and special drilling fluids for drilling through troublesome zones with the rotary system.

Petroleum Technology 112B — Drilling Equipment Field Laboratory (2-2) Trips to examine different types of drilling equipment in actual operation in the field. Also trips to service companies to study their drilling tools.

Petroleum Technology 121 — Oil Field Records (1-1) A study of records kept by oil companies and reports made within companies and to the railroad commission.

Petroleum Technology 123 — Production Methods (3-0) Methods of production of oil, including lease layout and operation, operation of treating equipment, well stimulation and work over.

Petroleum Technology 122A — Production Equipment Field Laboratory (2-2) Trips to examine different types of production equipment and treating equipment in actual operation and gas lift.

Petroleum Technology 213 — Introduction to Petroleum Industry (3-0) General study of the industry, including history of the industry, chemistry of petroleum, its occurrence in nature and its importance in the world economy, leasing and royalty exploration, drilling and production methods, conservation, transportation and refining, economics of the oil industry.

Petroleum Technology 212A — Well Logging Methods (2-0) A study of theories of electrical, micro-electrical radiation, optical chemical, and mechanical well logging methods and application of these theories, field examples and problems.

Petroleum Technology 213A — Petroleum Laboratory Methods (2-3) Tests made in the oil industry. Emulsion breaking, field tests made on crude oil, elementary refinery tests, corrosion tests, and lubricating oil tests and subsurface laboratory methods.

Petroleum Technology 222 — Planetable Surveying for Geophysics (1-3) Use of the planetable and alidade in surveying as applies to use by geophysical party.

Petroleum Technology 222C — Hydraulics for Petroleum Technologists (2-0) Hydraulics in drilling, in oil pipelines, and in artificial lift.

Petroleum Technology 222B — Geophysical Methods (2-1) Theory of geophysical methods; one complete problem in Seismic coverage of an area.

Petroleum Technology 222A — Natural Gas Production (2-0) Field handling of natural gas, study of methods, equipment technology of natural gas.

Land Surveying

First Year — First Semester

Surveying 113 — Introduction to Surveying
Surveying 113A — Surveying Measurements Practice
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States
Psychology 111
Physical Education 111

First Year — Second Semester

Surveying 123 — Land Surveying
Surveying 123A — Land Surveying
English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States
Physical Education 121

Second Year — First Semester

Surveying 213 — Topographic and Construction Surveying
Surveying 213A — Field Mapping Practice
Mathematics 113B — Trigonometry
Government 213 — American Government
Elective — 3 semester hours

Second Year — Second Semester

Surveying 223 — Route Surveying
Surveying 223A — Route Surveying Practices
Drafting 223B — Map Drafting
Government 223 — National and State Government
Speech 223A — Business and Professional Speaking

* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Description of Courses

Surveying 113 — Introduction to Surveying (3-0) Definitions, kinds, and classes; history; dendrology; units of measurements; precision and errors; slide rule; applied trigonometry and logarithms; azimuths and bearings; notekeeping lettering; data tabulations and survey sketch essentials. Must be taken concurrently with Surveying 113A.

Surveying 113A — Surveying Measurements Practice (2-5) Use, care and adjustment of instruments; chaining and pacing; sighting and signaling; compass and declination; reading graduations and vernier settings; measuring horizontal and vertical angles; first field exercises in leveling and traversing.

Surveying 123 — Land Surveying (3-0) History of public land surveys; subdivisions of land; computation of land areas by D.M.D.'s and coordinates; plotting and recording tracts of land; deed descriptions and interpretations; legal authorities and liabilities of a surveyor; and use of calculator in land area computations. Must be taken concurrently with Surveying 123A.

Surveying 123A — Land Surveying (2-5) Marking corners and establishing boundaries; determining latitudes, departures and land areas; metes and bounds surveys; system of plane coordinates; meandering and irregular boundaries; and resurveys and restoration of lost corners.

Surveying 213 — Topographic and Construction Surveying (3-0) Principles of field astronomy; topographic mapping; contouring; triangulation; building site surveying; construction staking and photogrammetry. Must be taken concurrently with Surveying 213A.

Surveying 213A — Field Mapping Practice (2-5) Field methods of topographic mapping to include transit method and plane table method; plotting and tracing contour lines; completing topographic map data and laying out of building sites.

Surveying 223 — Route Surveying (3-0) Reconnaissance; preliminary and location surveys; photogrammetry; plan and profile sheets; grades and crosssections; earthwork estimates; right-of-way documents; and computations of horizontal and vertical curves. Must be taken concurrently with Surveying 223A.

Surveying 223A — Route Surveying Practices (2-5) Centerline traverses; centerline and other R. O. W. levels; crosssectioning; route topographic mapping; right angle locations; construction stake locating, and the laying out of horizontal and vertical curves.

Technical Illustration

First Year — First Semester

Drafting 113B — Freehand Drawing
Technical Illustration 113A — Basic Graphics
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
Journalism 113 — Mass Communications
Psychology 111
Physical Education 111

First Year — Second Semester

Technical Illustration 123 — Design and Production
Technical Illustration 123A — Introduction to Technical Publication Illustration
English 123 — Composition and Rhetoric
History 213 — History of the United States
Speech 223A — Business and Professional Speaking
Physical Education 121

Second Year — First Semester

Technical Illustration 213 — Illustration for Technical Reproduction
Technical Illustration 213A — Advanced Technical Illustration — Theory I
Government 213 — American Government
History 223 — History of the United States
Art 213 — History of Art I

Second Year — Second Semester

Technical Illustration 223 — Technical Illustration and Reproduction
Technical Illustration 223A — Advanced Technical Illustration — Theory II
Government 223 — National and State Government
Art 223 — History of Art II
Psychology 223 — Applied Psychology

* Student placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Description of Courses

Technical Illustration 113A — Basic Graphics (2-4) A course designed to cover the basic requirements of illustration drawing. Including orthographic, isometric, oblique views, and instrument drawings.

Technical Illustration 123 — Design and Production (2-4) A basic, well-disciplined, practical background in using the most suitable materials and equipment. Stresses versatility in using all media acceptable in technical illustrating.

Technical Illustration 123A — Introduction to Technical Publication Illustration (2-4) Production of practical, attractive, original, effective, and aesthetically pleasing design in all illustrating media, with emphasis on lettering, typography, and practicality of reproduction.

Technical Illustration 213 — Illustration for Technical Reproduction (2-4) Execution of various problems typical of those which confront the illustrator, with emphasis on subject analysis, research, drawing composition, and preparation of the finished piece. From concept to completion, the student employs creative organization of pictorial material at a professional level.

Technical Illustration 213A — Advanced Technical Illustration — Theory I (2-4) Based on the exacting requirements of the armed forces and industry. Preparation and rendering of aircraft, automotive, and machine parts in various media from blueprints for operation and maintenance manuals.

Technical Illustration 223 — Technical Illustration and Reproduction Techniques (2-4) Techniques and methods of preparing illustrations and printed material for photography and offset press reproduction.

Technical Illustration 223A — Advanced Technical Illustration — Theory II (2-4) Emphasis on rendering and reproduction suitability with air brush, photo retouching, and technical manual publication.





